

SERVICE
MANUAL **1300DC**

marantz

model **1300DC**

Stereo Console Amplifier

marantz

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

CANADA

Superscope Canada, Ltd.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

AUSTRALIA

Superscope (Australasia) Pty., Ltd.
32 Cross Street (P.O. Box 604)
Brookvale 2100 N.S.W.
Australia

JAPAN

Marantz Japan, Inc.
3622 Kamitsuruma
Sagamihara Shi
Kanagawa, Japan

EUROPE

Superscope Europe, S.A.
Avenue Leopold III, 2
7120 Peronne-Beaumont
Belgium

Marantz France
Rue Louis Armand 9
92600 Asnieres
Hauts-de-Seine
France

Marantz Audio U.K. Ltd.
London Road, 203
Staines
Middlesex
England

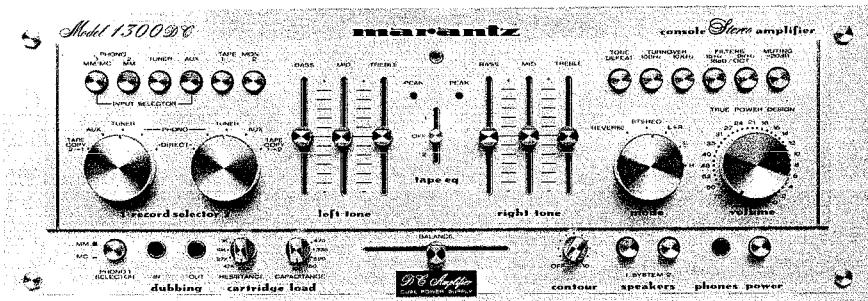
Superscope GmbH
Max-Planck-Strasse 22
D-6072 Dreieich 1
West Germany

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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We sound better.

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1. POWER AMPLIFIER ADJUSTMENT

1.1 Adjustment of idling current

Connect VTVM between left channel R760 and R761. Adjust R733 until the meter reads 20mV. Similarly, connect VTVM between right channel R760 and R761 and adjust R733 until the meter reads 10mV.

1.2 DC-OFFSET adjustment

Connect VTVM to JW02 and JW08 (or ground) and adjust left channel R720 until the meter indication

reaches 0mV ($\pm 5\text{mV}$). Similarly, connect VTVM to JW04 and JW08 (or ground) and adjust right channel R720 until the meter indication reaches 0mV ($\pm 5\text{mV}$).

2. POWER SUPPLY ADJUSTMENT

Connect a voltmeter between J810 and J820. Adjust R810 until meter indicates 31 VDC. Similarly connect a voltmeter between J812. Check to make sure that the meter indicates -31 V.

3. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 1180DC Stereo Console Amplifier. The wattmeter, AC voltmeter, and variable autotransformer may be assembled as a test fixture as shown schematically in Figure 1. The load resistors and AC ammeter may be assembled into a second test fixture as shown in Figure 2.

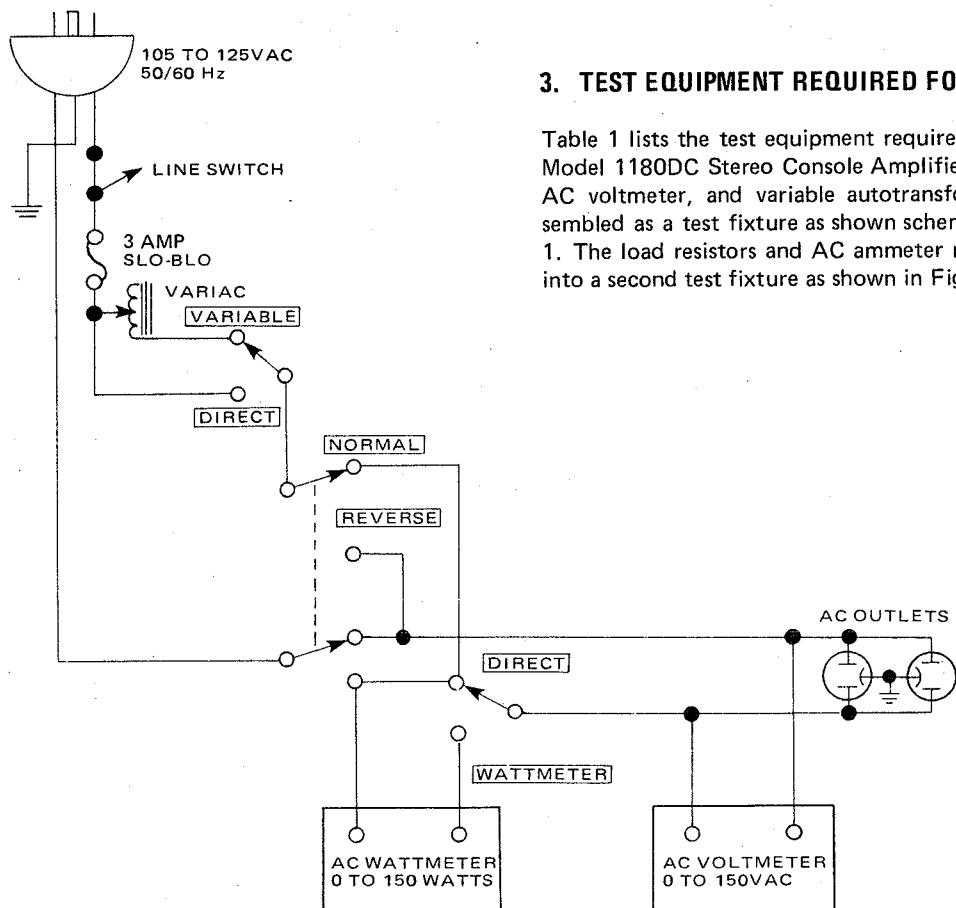


Figure 1. AC Power Control Box Simplified Schematic

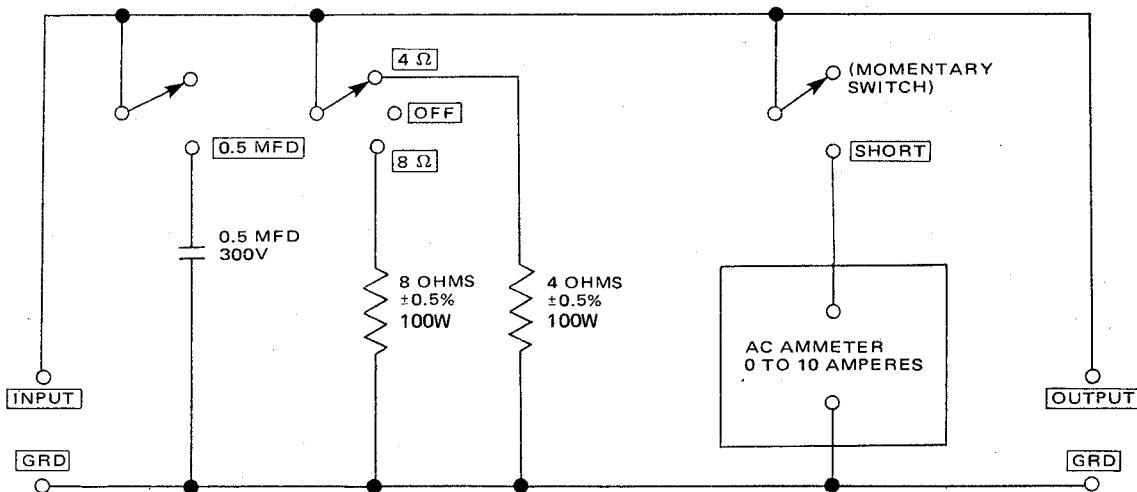


Figure 2. Amplifier Output Load Box Simplified Schematic

Table 1. Test Equipment Required for Servicing

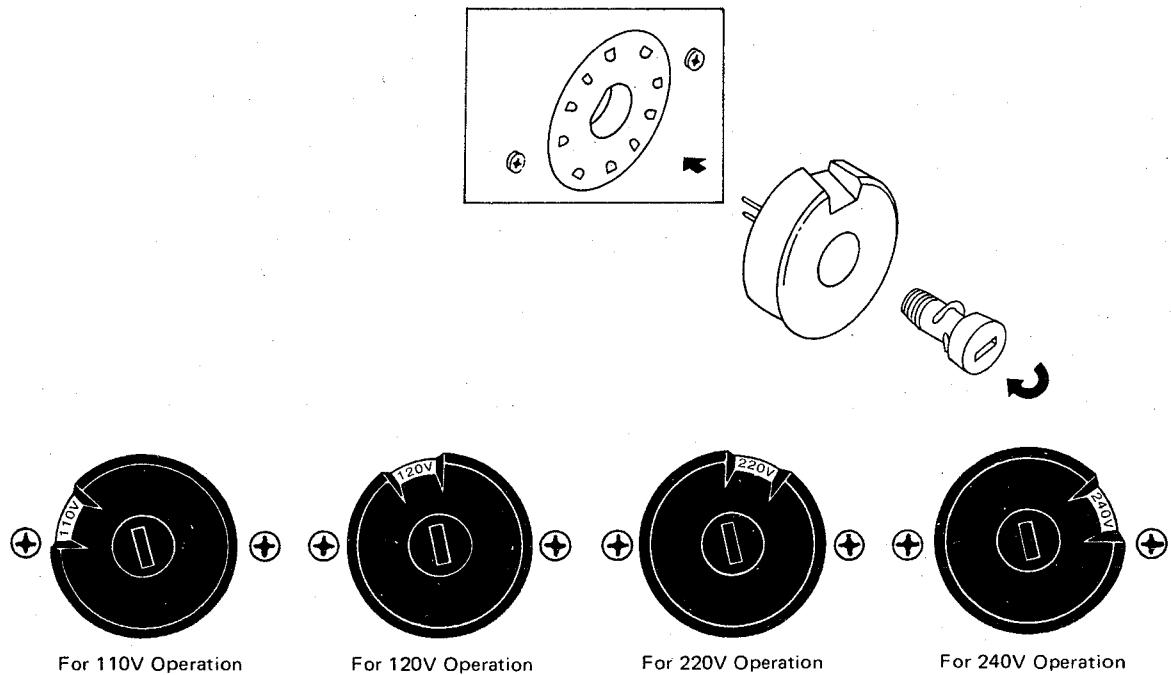
Item	Manufacturer and Model No. (or equivalent)	Use
Distortion Analyzer and Audio Oscillator	Spund Technology, Model 1700B (NOTE : Less than 0.002 percent residual distortion is required.)	Measures distortion, voltage of amplifier output and sinewave source
Oscilloscope	Tektronix, Model 503 Data, Model 555	Waveform analysis and troubleshooting.
VTVM	RCA Senior Volt-Ohmyst, Model WV-98C	Voltage and resistance measurements.
AC Wattmeter	Simpson, Model 390	Monitors primary power consumption of amplifier.
AC Ammeter (0 to 10 amps)	Commercial Grade	Monitors amplifier output under short circuit condition.
Line Voltmeter (0 to 150V AC)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140V AC, 10 amps)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohms across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Power Supply Bleeder Resistor (10 ohms at 1 W)	Commercial Grade	Discharges power supply filter capacitors prior to disassembly or resistance measurements.
Output Load Resistor (8 Ω ±0.5%, 250W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load Resistor (4 Ω ±0.5%, 250W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.
Output Load Capacitor (0.5 mfd)	Mylar	Provides capacitive load for instability checks.
AC Power Control Box	Optional Item. Fabricate in accordance with Figure 1.	Monitors and controls primary power for amplifier.
Amplifier Output Load Box	Optional Item. Fabricate in accordance with Figure 2.	Provides various amplifier loads and can monitor shorted output.

4. VOLTAGE CONVERSION**● EUROPEAN MODEL ONLY**

This Model is equipped with a universal power transformer to permit operation at 110, 120, 220 and 240 V AC 50/60 Hz.

To convert the unit to the required voltage, set the plug as illustrated so that you can adjust the voltage as required.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

Figure 3. Voltage Conversion Chart

For 110V Operation

For 120V Operation

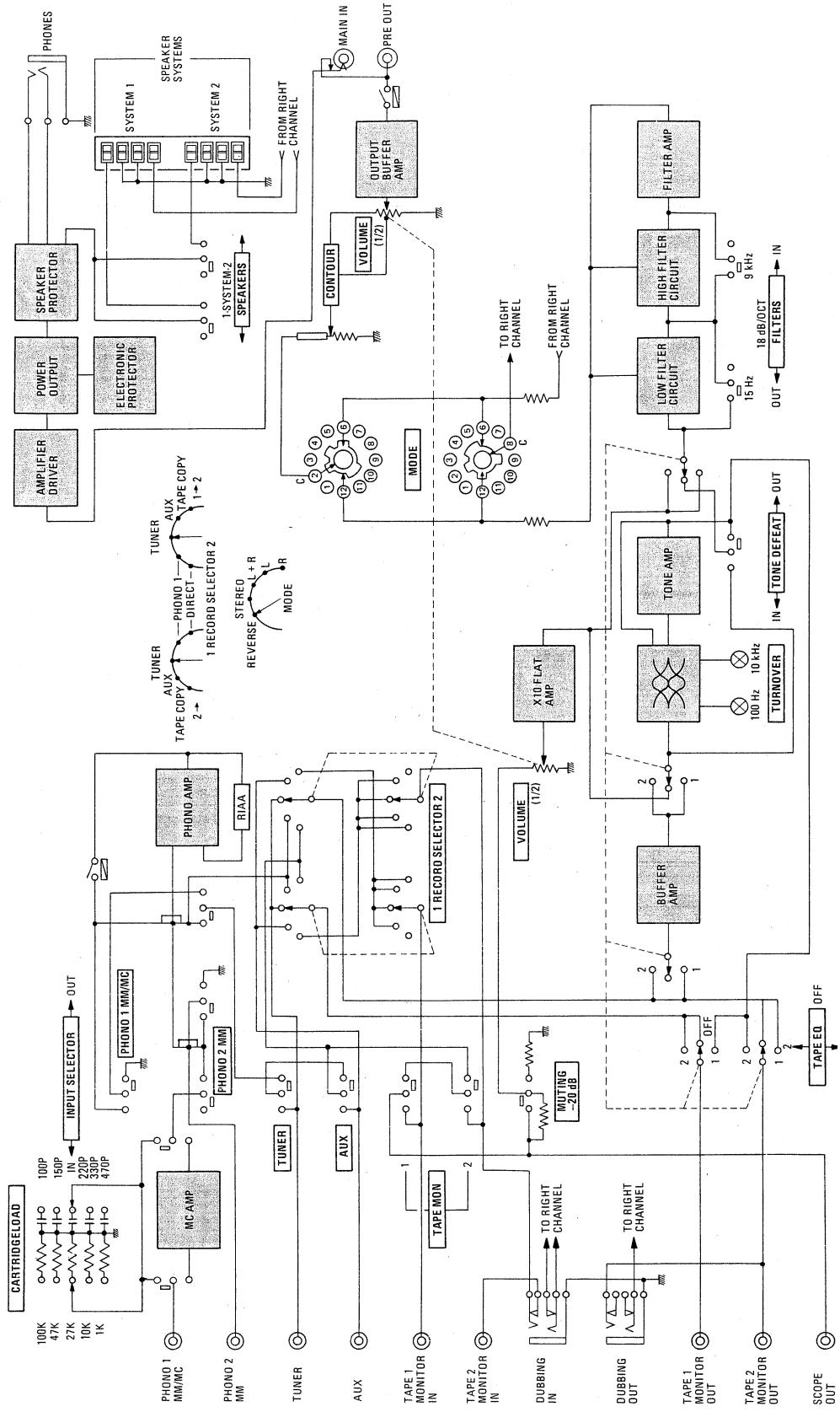
For 220V Operation

For 240V Operation

Removal Procedure of P.W. Boards

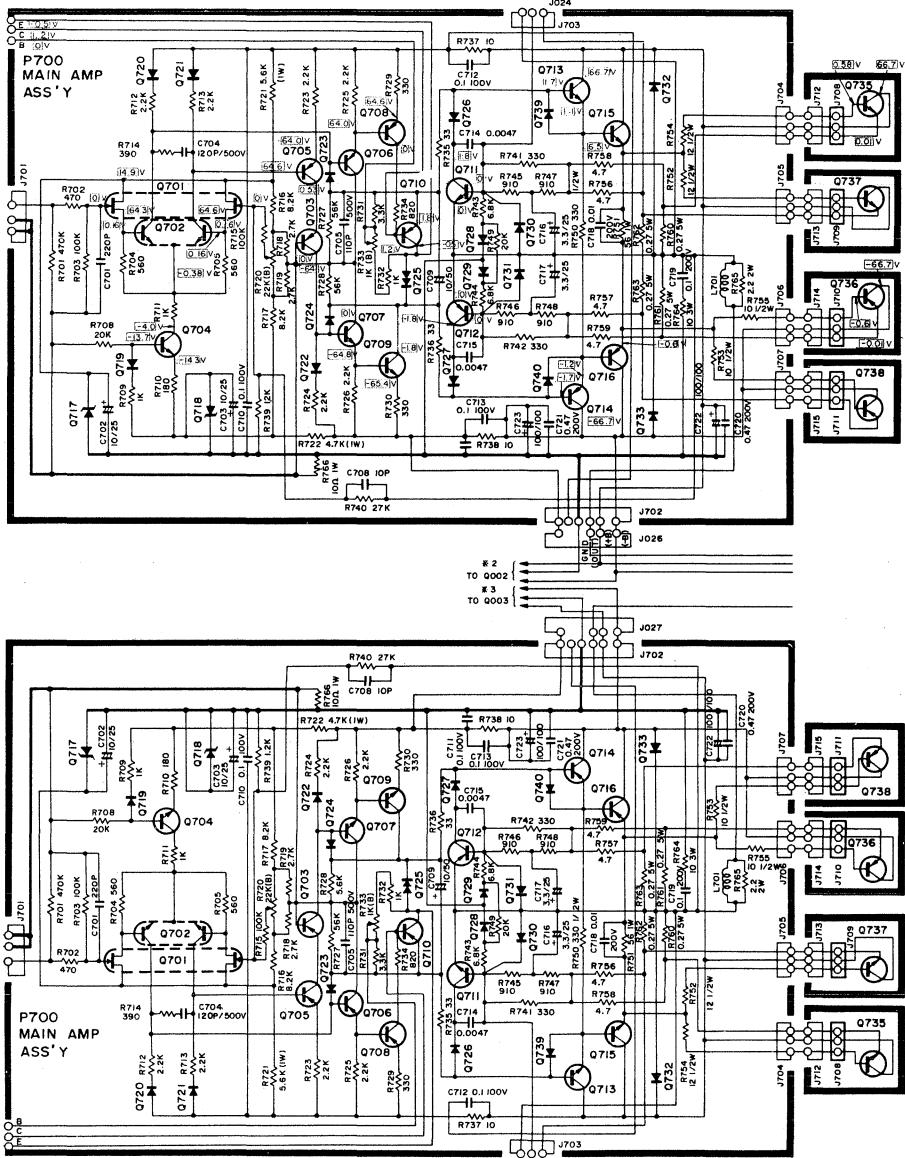
1. Remove the screw 1 (002C) and screw 2 (003C). Remove the Upper cover
2. Remove the screw 3 (011C). Remove the bottom cover.
3. Remove the screw 4 (101F). Remove the front cover (100F).
4. Remove the controls 1 (016B), 2 (017B), 3 (019B), 4 (020B), 5 (022B) and 6 (023B), and remove the screw 5 (021B), nut 1 (020F) and bolt 1 (025B). Remove the escutcheon.
5. Remove the screws 6 (003F), 7 (005F) and 8 (034F). Then the board will be drawn out toward you.

5. BLOCK DIAGRAM

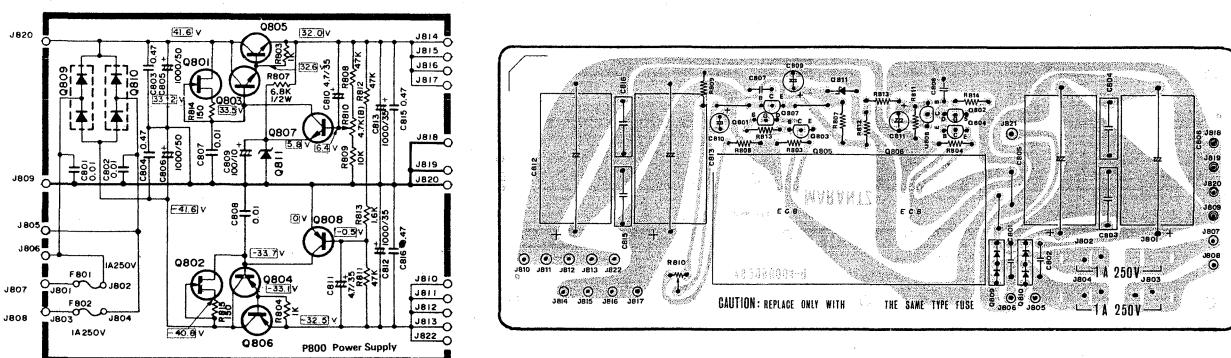


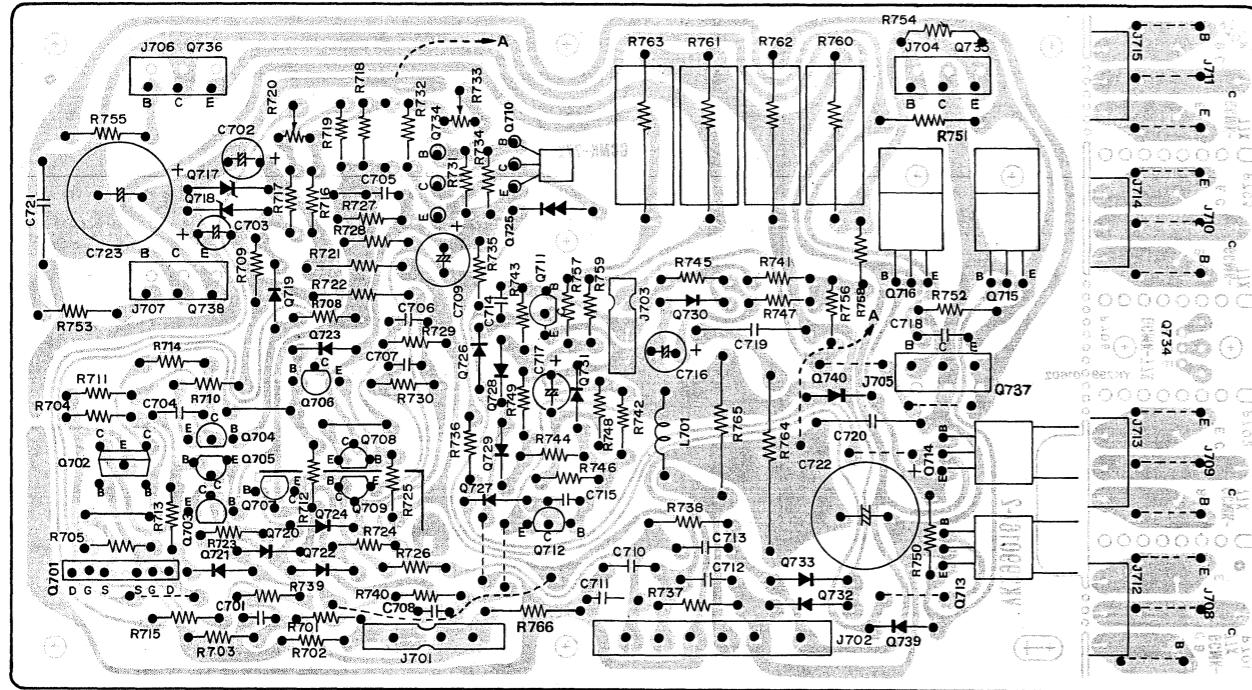
6. DIAGRAM AND COMPONENT LOCATIONS

6.1 Main Amp Assembly (P700/P703,4/P705,6) Schematic Diagram and Component Locations

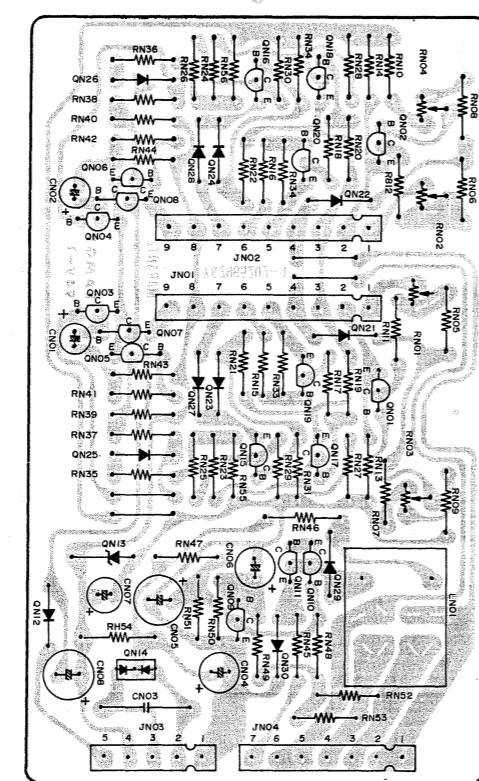
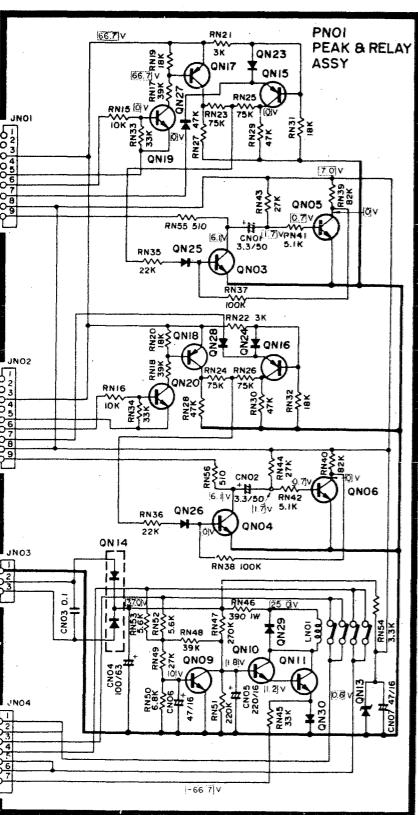


6.2 Power Supply Assembly (P800) Schematic Diagram and Component Locations

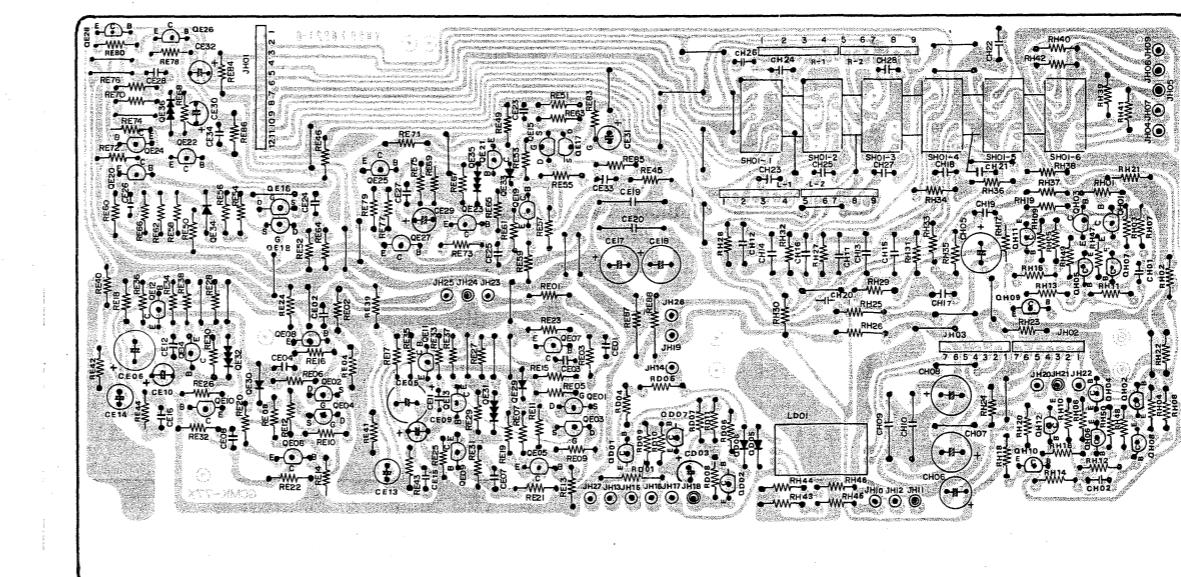
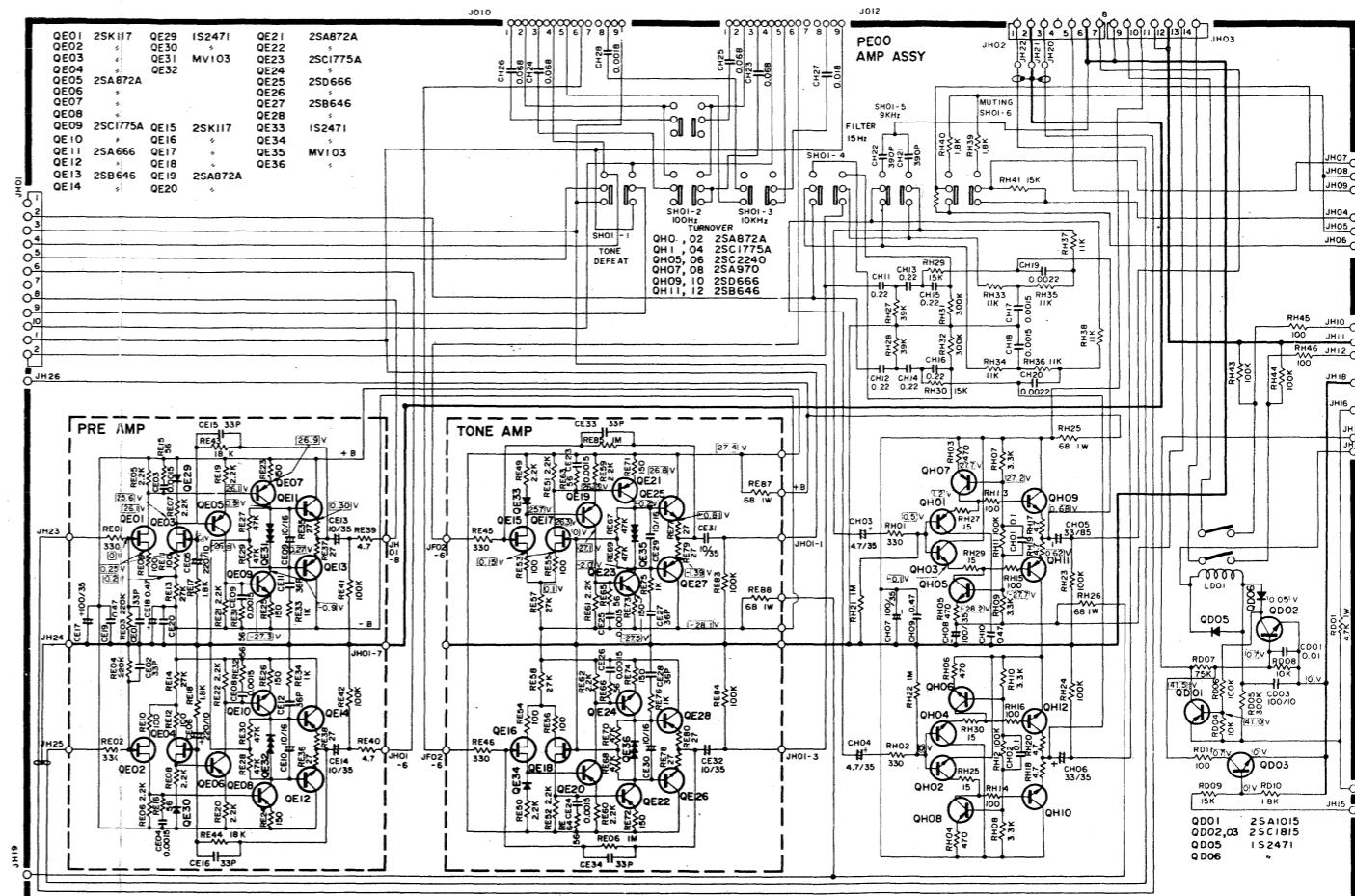




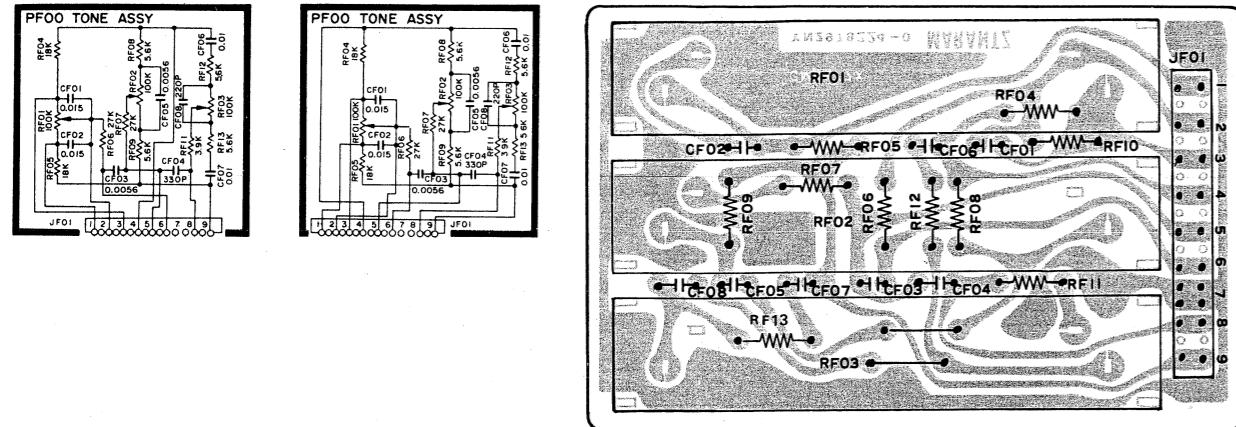
6.3 Peak and Relay Assembly (PN01) Schematic Diagram and Component Locations



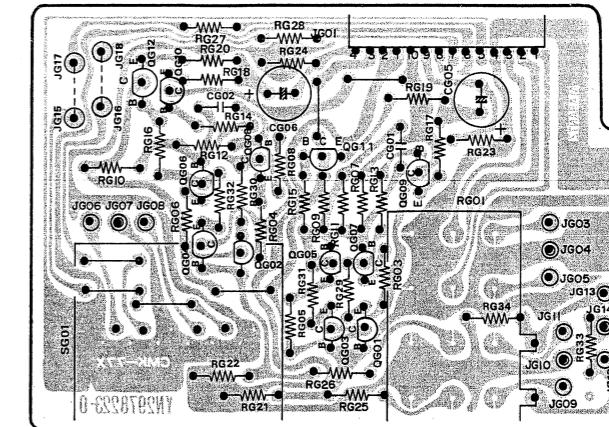
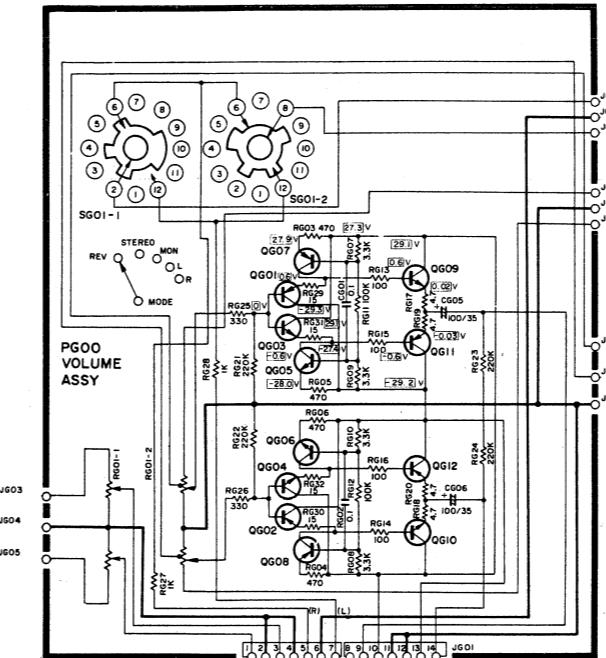
6.4 Pre Amp Assembly (PE00) Schematic Diagram and Component Locations



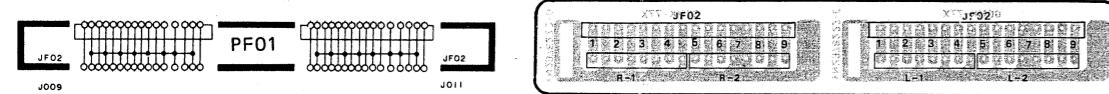
6.5 Tone VR Assembly (PF00) Schematic Diagram and Component Locations



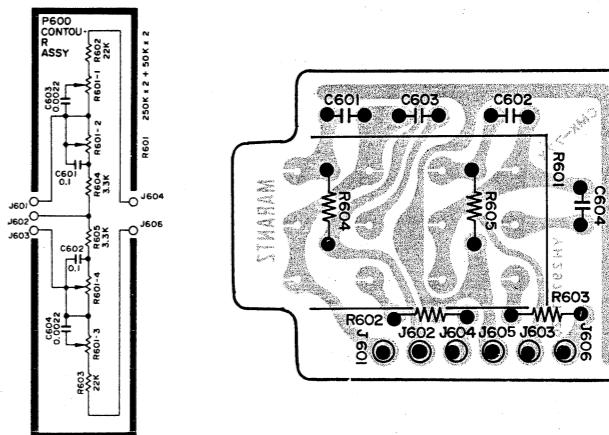
6.9 Volume Assembly (PG00) Schematic Diagram and Component Locations



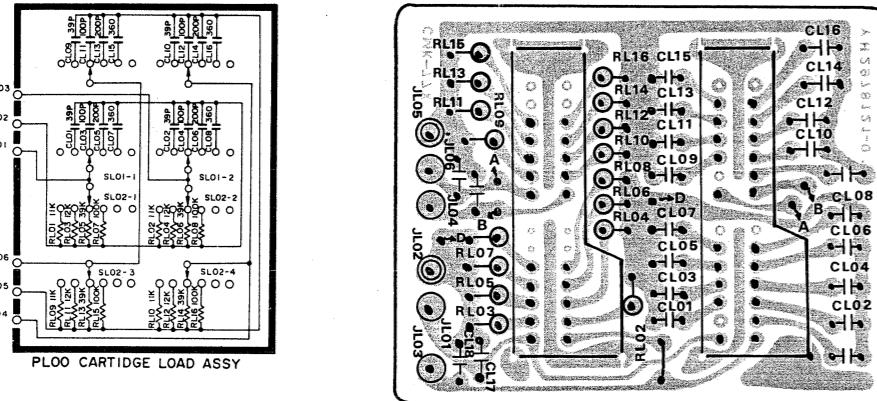
6.6 Tone VR Selector Assembly (PF01) Schematic Diagram and Component Locations



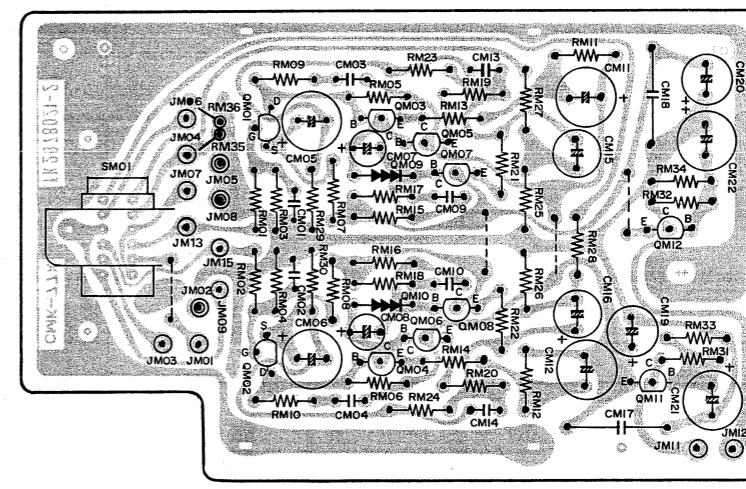
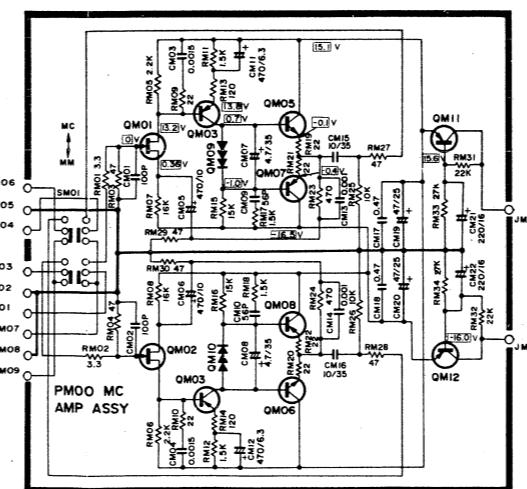
6.10 Contour Assembly (P600) Schematic Diagram and Component Locations



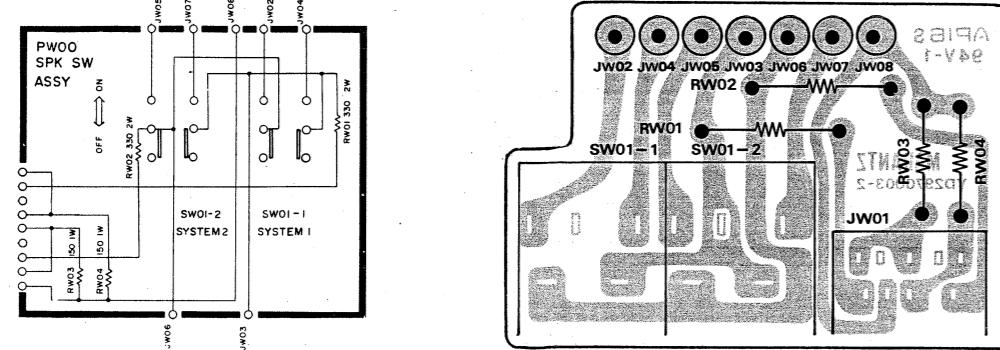
6.7 Cartdge Load Assembly (PL00) Schematic Diagram and Component Locations



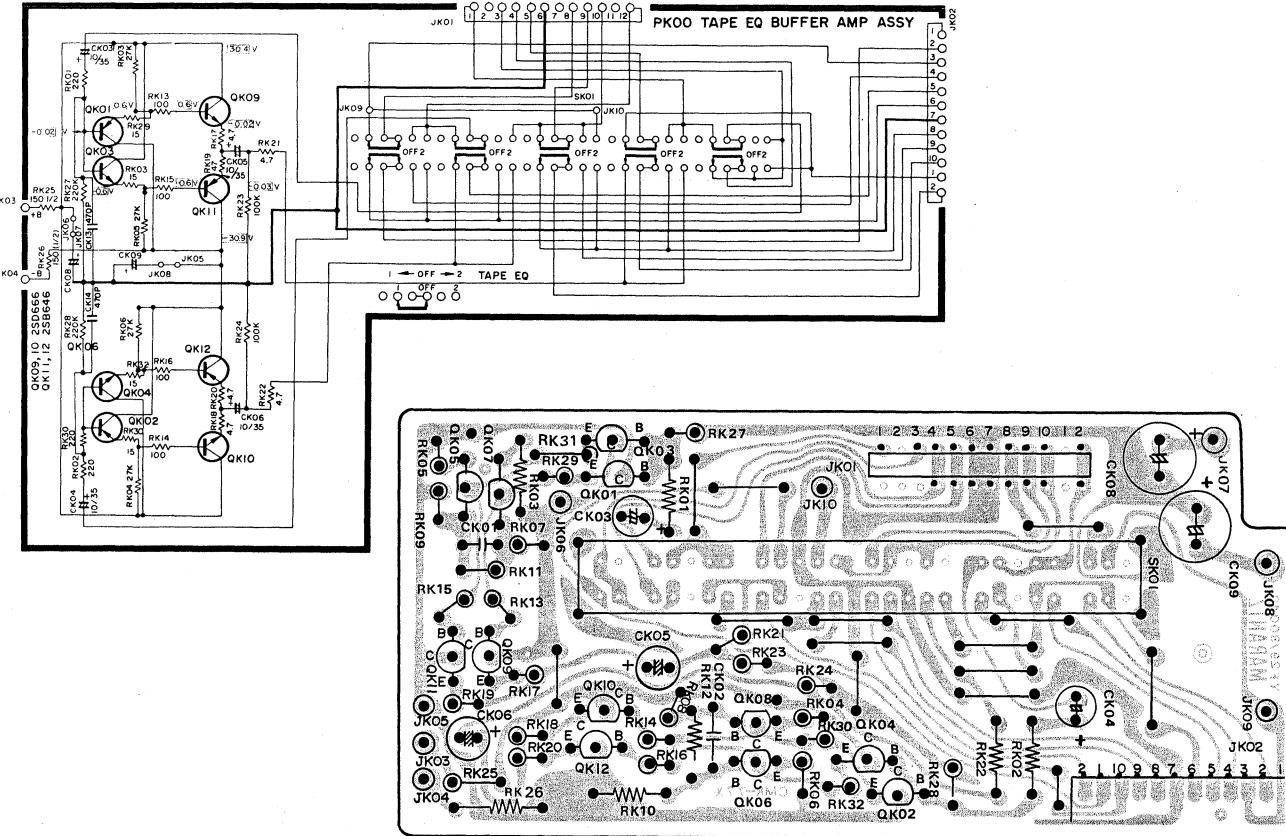
6.11 Mc Amp Assembly (PM00) Schematic Diagram and Component Locations



6.8 Spk SW Assembly (PW00) Schematic Diagram and Component Locations

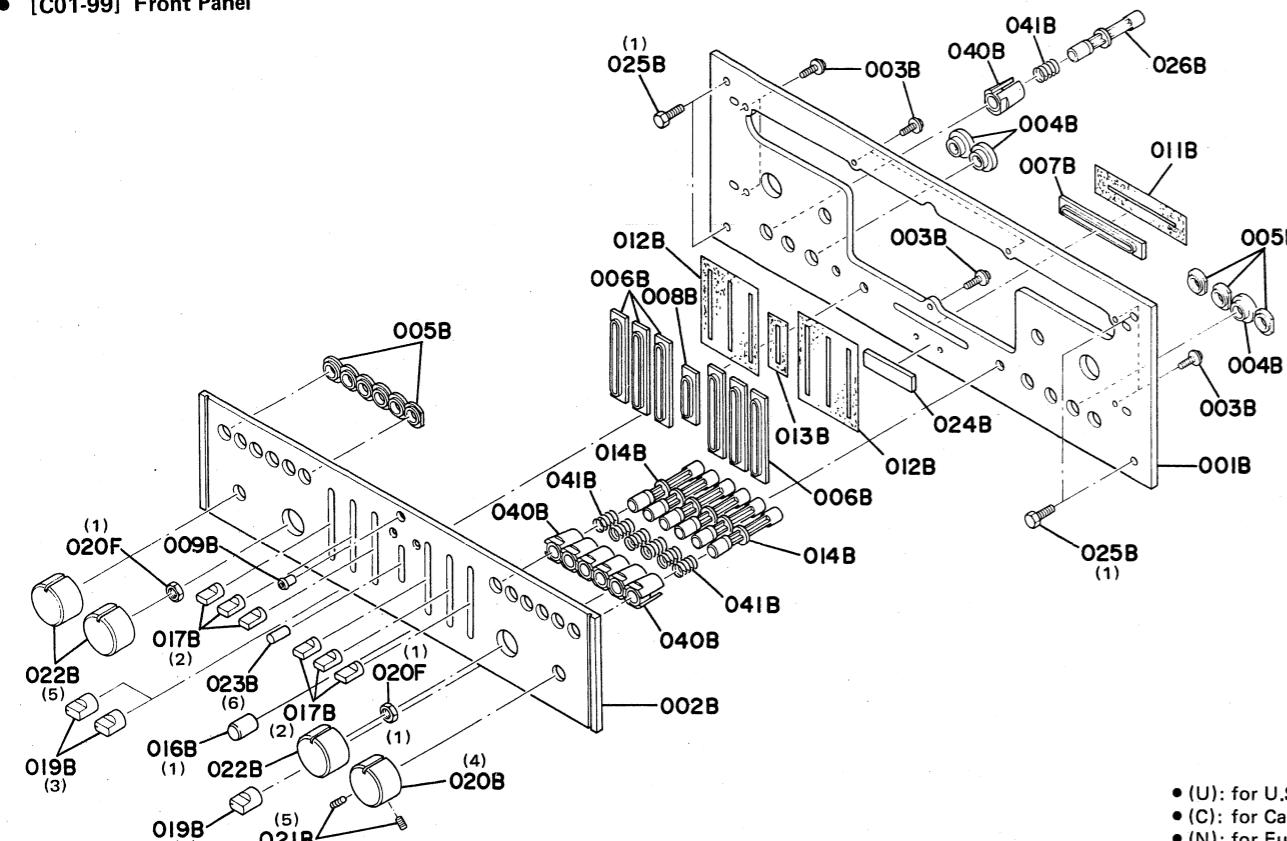


6.12 Tape EQ Buffer Amp Assembly (PK00) Schematic Diagram and Component Locations



7. EXPLODED MECHANICAL DIAGRAM

- [C01-99] Front Panel

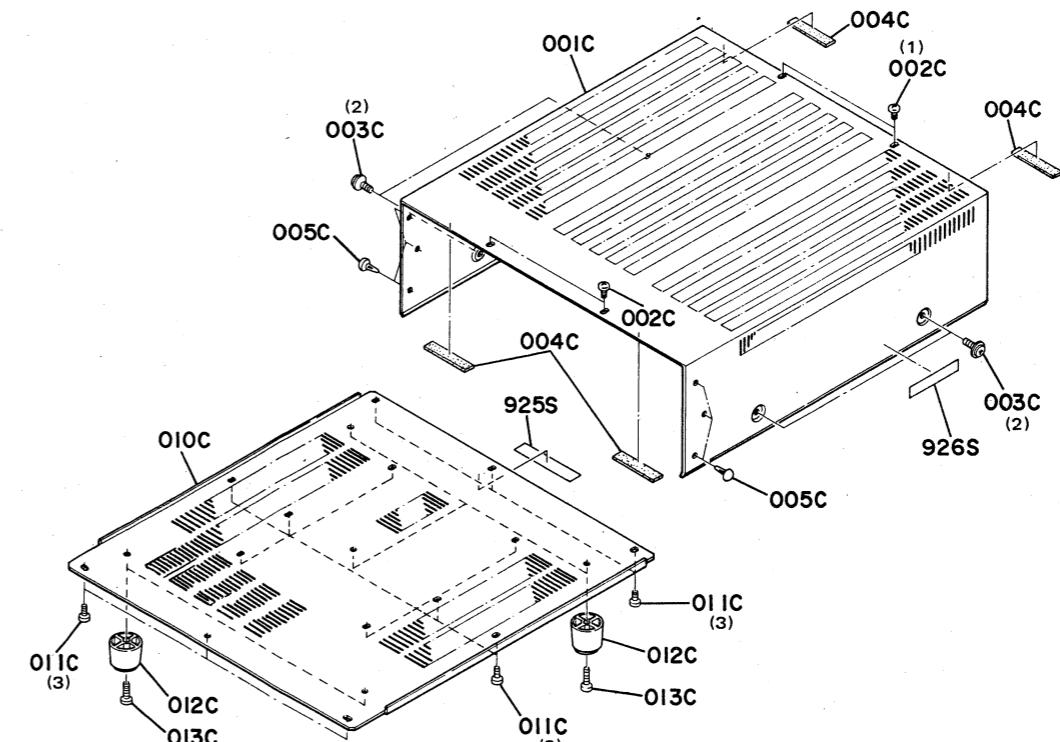


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
A	1	1	1	2990063400	Front Panel Assembly
001B	1	1	1	2990063012	Escutcheon, Main
002B	1	1	1	2990063030	Escutcheon, Sub
003B	7	7	7	51480306A9	F. Washer Screw
004B	3	3	3	2978259020	Bushing, Jack
005B	9	9	9	2978259012	Bushing, Push Switch
006B	6	6	6	2970259010	Bushing, Slide VR
007B	1	1	1	2926259040	Bushing, Balance VR
008B	1	1	1	2978259042	Bushing, Tape EQ
009B	1	1	1	2979259022	Bushing, LED
011B	1	1	1	2926303020	Mask
012B	2	2	2	2926303010	Mask
013B	1	1	1	2978303010	Mask
014B	6	6	6	2978154043	Knob
024B	1	1	1	2979251020	Badge
026B	1	1	1	2978154070	Knob
040B	7	7	7	2979259013	Bushing
041B	7	7	7	2979115012	Spring

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
016B	1	1	1	2970154010	Knob
017B	6	6	6	2970154020	Knob
019B	3	3	3	2978154030	Knob
020B	1	1	1	2965154010	Knob
021B	2	2	2	51690306Q9	Socket Screw, HP 3 x 6
022B	3	3	3	2978154050	Knob
023B	1	1	1	2978154020	Knob
025B	4	4	4	52017069J0	H. Head Bolt
020F	2	2	2	53118179A0	Hexagon Nut

- [C02-99] Lid (Top cover)

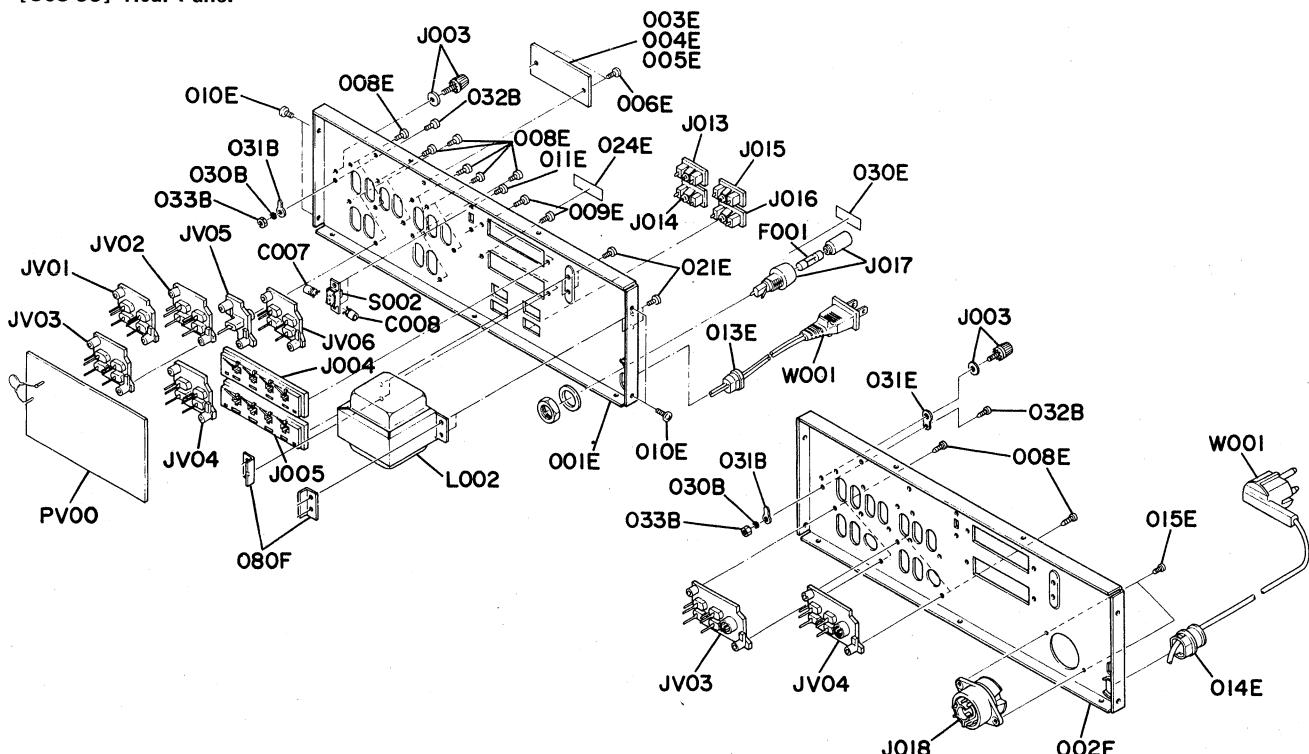


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	
	U	C	N			
001C	1	1	1	2990257010	Lid, Top Cover	
002C	4	4	4	51280306U0	B.H. Tapped Screw	B3 x 6
003C	4	4	4	51480406S9	F. Washer Screw	F4 x 6
004C	4	4	4	2965118010	Spacer	
005C	6	6	6	2991259010	Bushing	
010C	1	1	1	2990257020	Lid, Bottom Cover	
011C	14	14	14	51280408U0	B.H. Tapped Screw	B4 x 8
012C	5	5	5	2759057010	Leg	
013C	5	5	5	51570410S0	P. Tapped Screw	P4 x 10

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
925S	1		1	2578861010	Label
925S		1		2911861110	Label
926S		1		2911861140	Label
926S	1		1	2932861010	Label

- [C03-99] Rear Panel

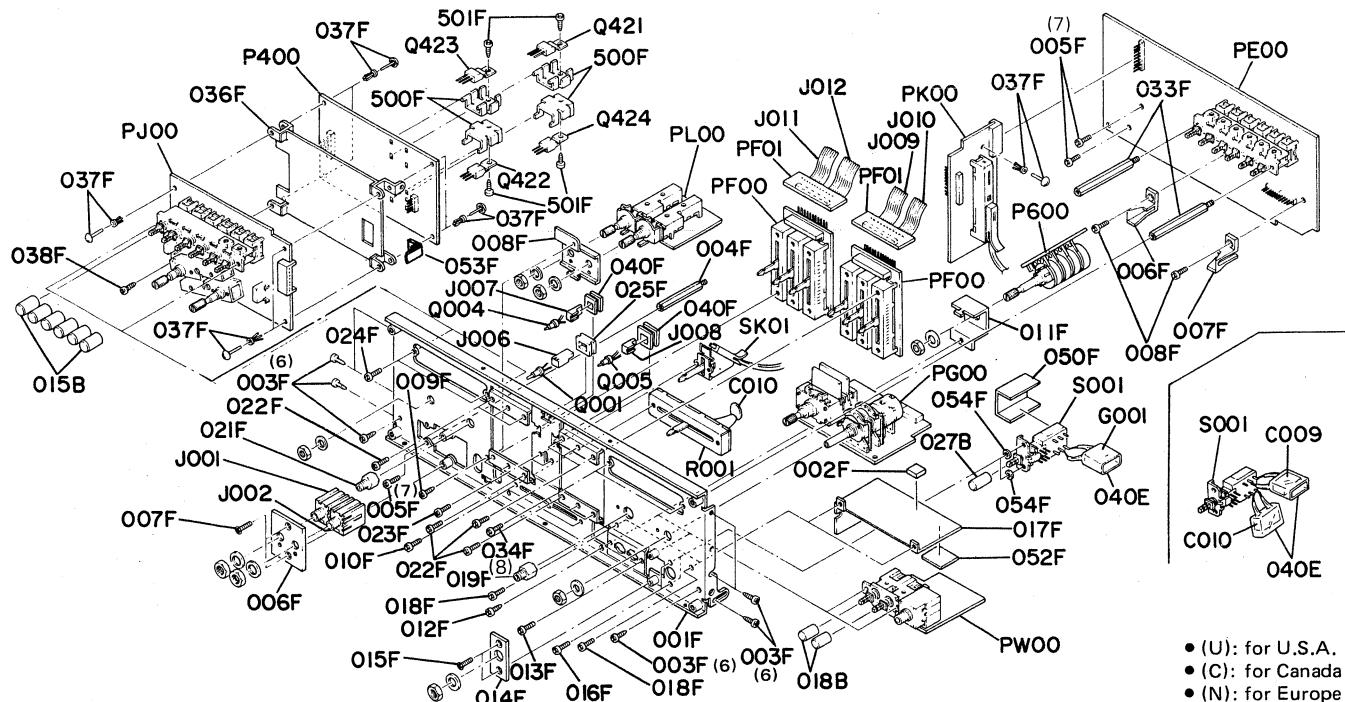


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
001E	1	1		2990160210	Bracket, Rear Panel		
002E			1	2990160220	Bracket, Rear Panel		
003E	1			2990265010	Indicator		
004E		1		2990265020	Indicator		
005E			1	2990265030	Indicator		
006E	2	2	2	51760306B0	OS Tapped Screw	3 x 6	
008E	12	12	14	51280308U0	B.H. Tapped Screw	B3 x 8	
009E	4	4	4	51280308U0	B.H. Tapped Screw	B3 x 8	
010E	4	4	4	51280308U0	B.H. Tapped Screw	B3 x 8	
011E	2	2	2	51100306S9	B.H.M. Screw	B3 x 6	
013E	1	1		1455259070	Bushing		
014E			1	2286259110	Bushing		
015E			2	51100308S9	B.H.M. Screw	B3 x 8	
021E	4	4	4	51100408S9	B.H.M. Screw	B4 x 8	
024E		1		2214861010	Label		
030E	1			2911861250	Label		
031E			1	2211123110	Contactor		
030B	1	1	1	54040302N0	Spring Washer		
031B	1	1	1	62030049W0	Lug		
032B	1	1	1	51100308B9	B.H.M. Screw	B3 x 8	
033B	1	1	1	53110303E9	Hexagon Nut		
080F	2	2	2	2990104070	Retainer		
C007	1	1	1	EQ10601610	Elect Cap.	0.01 μ F	16V
C008	1	1	1	EQ10601610	Elect Cap.	0.01 μ F	16V
F001	1	1		FS10800040	Fuse,	4AT	250V
F001			1	FS10400800	Fuse,	8A	

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
J003	1	1	1	YL03010240	Terminal, Ground
J004	1	1	1	YT03040160	Terminal, Speaker
J005	1	1	1	YT03040160	Terminal, Speaker
J013	1	1		YJ04000560	Jack, A.C. Outlet
J014	1	1		YJ04000560	Jack, A.C. Outlet
J015	1	1		YJ04000560	Jack, A.C. Outlet
J016	1	1		YJ04000560	Jack, A.C. Outlet
J017	1	1		YJ08000230	Jack, Fuse Holder
J017			1	YJ08000220	Jack, Fuse Holder
J018			1	BY03110010	Plug, Voltage Selector
L002	1	1		TS16616010	Power Transformer
L002			1	TS16616020	Power Transformer
S002	1	1	1	SS02020380	Slide Switch
W001	1	1		YC02000160	A.C. Power Cord
W001			1	YC01900030	A.C. Power Cord
PV00	1	1	1	YF29780020	P.W. Board, RCA Pin Jack
	1	1		ZZ29901020	P.W. Board Assembly
			1	ZZ29908020	P.W. Board Assembly
JV01	1	1	1	YT02040270	Terminal
JV02	1	1	1	YT02040150	Terminal
JV03	1	1		YT02040150	Terminal
JV03			1	BY01050060	Jack
JV04	1	1		YT02040150	Terminal
JV04			1	BY01050060	Jack
JV05	1	1	1	YT02020150	Terminal
JV06	1	1		YT02040210	Terminal
JV06			1	YT02040150	Terminal

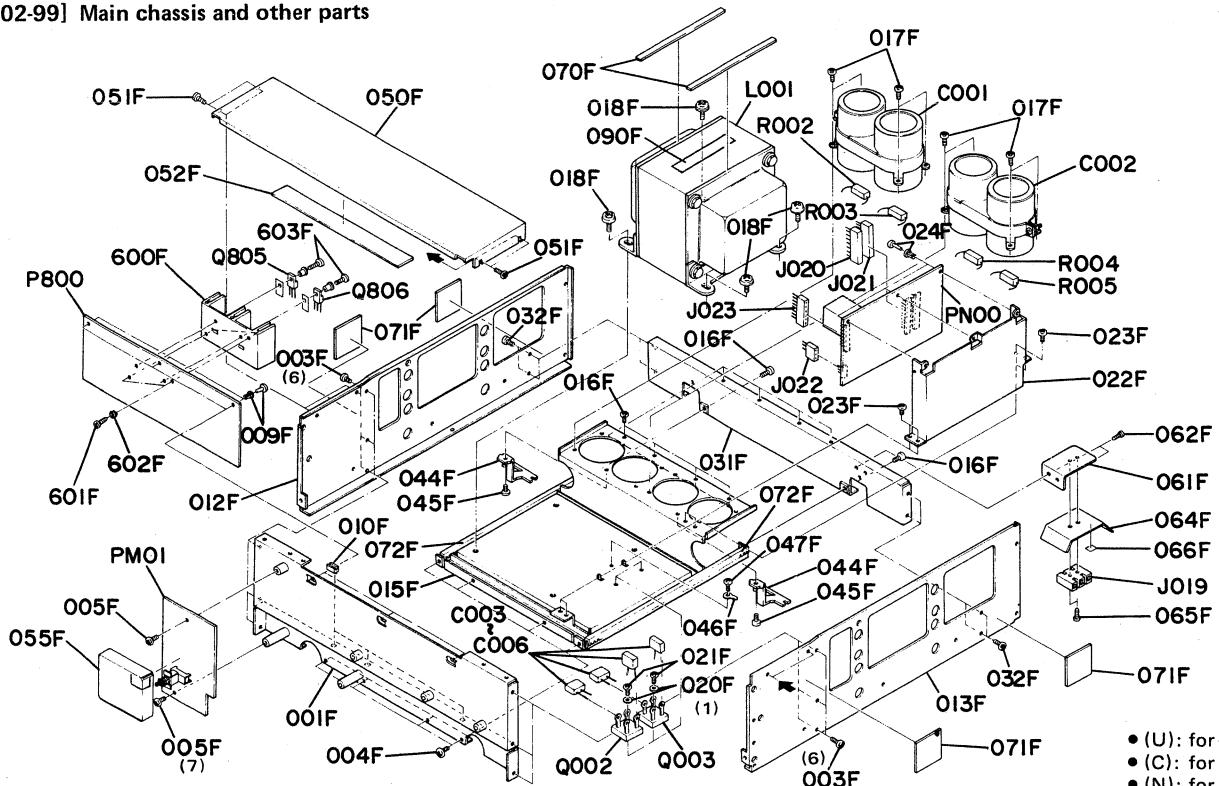
• [P01-99] Front Chassis and General Parts



REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001F	1	1	1	2978160020	Bracket, Front
002F	1	1	1	3358118080	Spacer
003F	8	8	8	51280308B0	B.H. Tapped Screw B3x 8
004F	1	1	1	2978101050	Support
005F	1	1	1	51100306A9	B.H.M. Screw B3 x 6
006F	1	1	1	2978120050	Insulator
007F	2	2	2	5104030659	F.H.M. Screw F3 x 6
008F	1	1	1	2978160080	Bracket
009F	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
010F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
011F	1	1	1	2978160070	Bracket
012F	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
013F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
014F	1	1	1	2970120020	Insulator
015F	2	2	2	51040306S9	F.H.M. Screw F3 x 6
016F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
017F	1	1	1	2978109030	Shield
018F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
019F	1	1	1	2978101020	Support
021F	1	1	1	2970101010	Support
022F	12	12	12	51100306A9	B.H.M. Screw B3 x 6
023F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
024F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
025F	1	1	1	2978259060	Bushing
033F	2	2	2	2978101050	Support
034F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
036F	1	1	1	2978109050	Shield
037F	8	8	8	2276005050	Clamper
038F	1	1	1	51280306B0	B.H. Tapped Screw B3 x 6
040F	2	2	2	2978259060	Bushing
050F	1	1	1	3951120010	Insulator
052F	1	1	1	2978120070	Insulator
053F	1	1	1	2978120080	Insulator
054F	2	2	2	2232118300	Spacer

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
500F	4	4	4	2963267020	Heatsink
501F	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
015B	6	6	6	2970154030	Knob
018B	2	2	2	2970154030	Knob
027B	1	1	1	2221154120	Knob, Power Switch
040E	1	1	1	2219120010	Insulator
040E			2	3926120010	Insulator
005F	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
006F	1	1	1	2978051010	Guide
007F	1	1	1	2978051110	Guide
008F	1	1	1	51280310B0	B.H. Tapped Screw B3 x 10
C009		1		DF17223800	Film Cap. 0.022μF ±20% 1000V
C010		1		DF17223800	Film Cap. 0.022μF ±20% 1000V
C010	1	1	1	DK18473310	Ceramic Cap. 0.047μF +80 -20%
G001	1			BF10400030	Cap. Comp. 0.1μF + 120Ω
G001	1			BF10400050	Cap. Comp. 0.1μF + 120Ω
J001	1	1	1	YJ01001010	Jack, Dubbing In
J002	1	1	1	YJ01001010	Jack, Dubbing Out
J006	1	1	1	YJ05000250	Jack, L.E.D.
J007	1	1	1	YJ05000270	Jack, L.E.D.
J008	1	1	1	YJ05000250	Jack, L.E.D.
J009	1	1	1	YU08150210	Jumper Lead (8P)
J010	1	1	1	YU08150210	Jumper Lead (8P)
J011	1	1	1	YU08250210	Jumper Lead (8P)
J012	1	1	1	YU08250210	Jumper Lead (8P)
Q001	1	1	1	HI10004030	L.E.D.
Q004	1	1	1	HI10004030	L.E.D.
Q005	1	1	1	HI10004030	L.E.D.
R001	1	1	1	RS01040110	Variable Resistor, 100KΩ (BH) x 2
S001	1	1	1	SP04010230	Push Switch, Power
S001			1	SP04010250	Push Switch, Power

- [C02-99] Main chassis and other parts

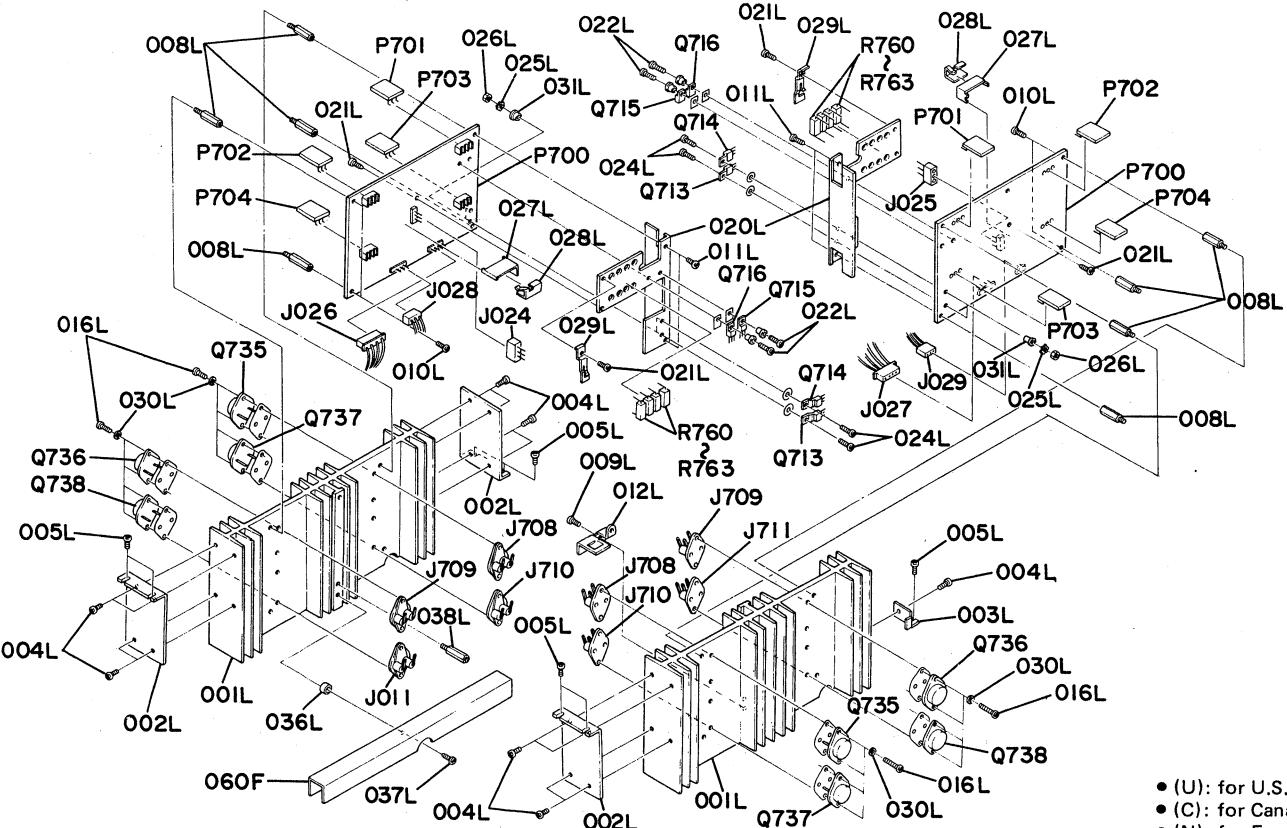


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001F	1	1	1	2990160110	Bracket, Front Chassis
003F	6	6	6	51280408U0	B.H. Tapped Screw B4 x 8
004F	4	4	4	51280408B0	B.H. Tapped Screw B4 x 8
005F	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
009F	3	3	3	2965005010	Clamper
010F	3	3	3	2218271020	Holder
012F	1	1	1	2990160030	Bracket, (L)
013F	1	1	1	2990160130	Bracket, (R)
015F	1	1	1	2979105010	Chassis, Main
016F	6	6	6	51280408B0	B.H. Tapped Screw B4 x 8
017F	8	8	8	51280308B0	B.H. Tapped Screw B3 x 8
018F	4	4	4	51490612A9	L. Washer Screw L6 x 12
020F	2	2	2	54020301A0	Flat Washer, P
021F	2	2	2	51280316B0	B.H. Tapped Screw B3 x 16
022F	1	1	1	2979160010	Bracket
023F	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
024F	3	3	3	2965005010	Clamper
031F	1	1	1	2990160020	Bracket
032F	4	4	4	51280408U0	B.H. Tapped Screw B4 x 8
044F	2	2	2	2979160040	Bracket
045F	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
046F	1	1	1	62030049W0	Lug
047F	1	1	1	51280306B0	B.H. Tapped Screw B3 x 6
050F	1	1	1	2990053010	Cover
051F	4	4	4	51280306U0	B.H. Tapped Screw B3 x 6
052F	1	1	1	2978120010	Insulator
055F	1	1	1	2978053050	Cover
061F			1	2990271010	Holder
062F		2		51280308B0	B.H. Tapped Screw B3 x 8
064F		1		3953120030	Insulator
065F		2		51280314B0	B.H. Tapped Screw B3 x 14
066F		1		2882861020	Label

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
070F	2	2	2	2979056010	Buffer		
071F	4	4	4	2979056020	Buffer		
072F	2	2	2	2979259050	Bushing		
090F	1	1	1	2213861010	Label		
600F	1	1	1	2990267020	Heatsink		
601F	2	2	2	51280306B0	B.H. Tapped Screw	B3 x 6	
602F	2	2	2	54050300R0	T.L. Washer OR		
603F	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8	
C001	1	1	1	E110908040	Elect Cap.	10000 μ F	
C002	1	1	1	E110908040	Elect Cap.	10000 μ F	
C003	1	1	1	DK18103510	Ceramic Cap.	0.01 μ F	500V
C004	1	1	1	DK18103510	Ceramic Cap.	0.01 μ F	500V
C005	1	1	1	DK18103510	Ceramic Cap.	0.01 μ F	500V
C006	1	1	1	DK18103510	Ceramic Cap.	0.01 μ F	500V
J019			1	YL09030010	Terminal,	(3P)	
J020	1	1	1	YJ06001070	Jack,	(9P)	
J021	1	1	1	YJ06001070	Jack,	(9P)	
J022	1	1	1	YJ06001040	Jack,	(3P)	
J023	1	1	1	YJ06001060	Jack,	(7P)	
L001	1	1		TS63303040	Power Transformer		
L001			1	TS63303050	Power Transformer		
Q002	1	1	1	HD20004290	Diode	S5VB-20	
Q003	1	1	1	HD20004290	Diode	S5VB-20	
R002	1	1	1	GS10222030	Resistor	2.2K Ω $\pm 10\%$ 3W	
R003	1	1	1	GS10222030	Resistor	2.2K Ω $\pm 10\%$ 3W	
R004	1	1	1	GS10222030	Resistor	2.2K Ω $\pm 10\%$ 3W	
R005	1	1	1	GS10222030	Resistor	2.2K Ω $\pm 10\%$ 3W	
Q805	1	1	1	HT403132P0	Transistor	2SD313 (D or E)	
Q806	1	1	1	HT205072P0	Transistor	2SB507 (D or E)	

- [C02-99] Main Chassis and Other Parts

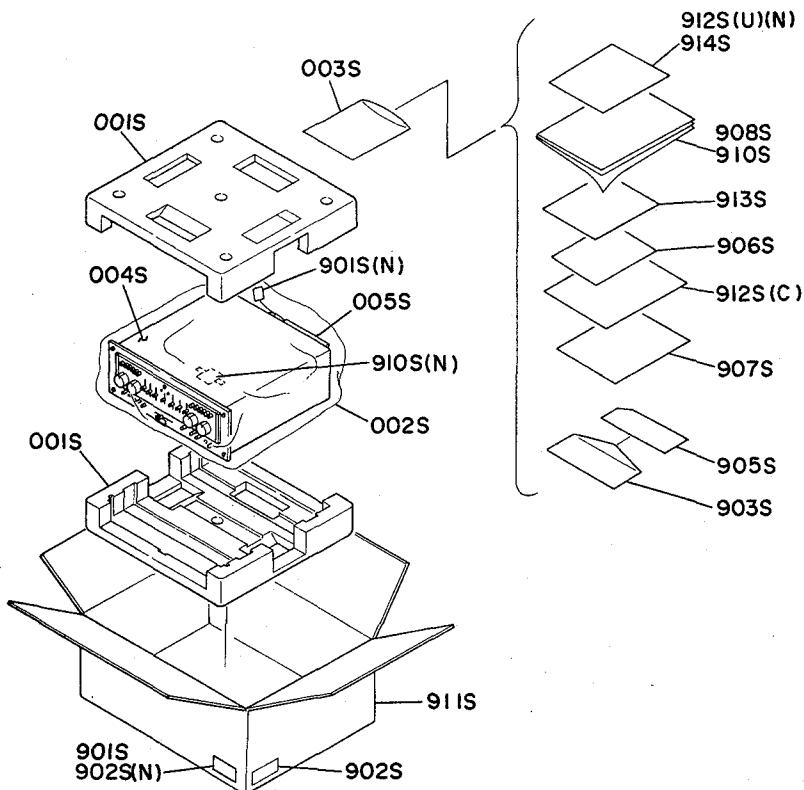


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	
	U	C	N			
001L	2	2	2	2463267010	Heatsink	
002L	3	3	3	2979160020	Bracket	
003L	1	1	1	2978104030	Retainer	
004L	13	13	13	51280308B0	B.H. Tapped Screw	B3 x 8
005L	7	7	7	51280306B0	B.H. Tapped Screw	B3 x 6
008L	8	8	8	2463101010	Support	
009L	1	1	1	51100306A9	B.H.M. Screw	B3 x 6
010L	6	6	6	51100306A9	B.H.M. Screw	B3 x 6
011L	4	4	4	51100308A9	B.H.M. Screw	B3 x 8
012L	1	1	1	2990104060	Retainer	
016L	16	16	16	51100316A9	B.H.M. Screw	B3 x 16
020L	2	2	2	2990267030	Heatsink	
021L	4	4	4	51280306B0	B.H. Tapped Screw	B3 x 6
022L	4	4	4	51100308E9	B.H.M. Screw	B3 x 8
024L	4	4	4	51100312E9	B.H.M. Screw	B3 x 12
025L	4	4	4	54050300R0	T.L. Washer OR	
026L	4	4	4	53110303E9	Hexagon Nut	
027L	2	2	2	2990267080	Heatsink	
028L	2	2	2	2990115020	Spring	
029L	2	2	2	2990115010	Spring	
030L	16	16	16	54040302NO	Spring Washer	
031L	4	4	4	2219259030	Bushing	
037L	1	1	1	51100310A9	B.H.M. Screw	B3 x 10
038L	1	1	1	2891101030	Support	
036L	1	1	1	3683055010	Collar	
060F	1	1	1	2990109010	Shield	

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION			
	U	C	N					
J024	1	1	1	YJ06001040	Jack,	(3P)		
J025	1	1	1	YJ06001040	Jack,	(3P)		
J026	1	1	1	YJ06002050	Jack,	(4P)		
J027	1	1	1	YJ06002060	Jack,	(4P)		
J028	1	1	1	YJ06001040	Jack,	(3P)		
J029	1	1	1	YJ06001040	Jack,	(3P)		
P700	2	2	2	YK29901610	P.W. Board, Main			
	2	2	2	ZZ29901610	P.W. Board Assembly			
R760	2	2	2	GW10272050	Resistor	0.27Ω	±10%	5W
R761	2	2	2	GW10272050	Resistor	0.27Ω	±10%	5W
R762	2	2	2	GW10272050	Resistor	0.27Ω	±10%	5W
R763	2	2	2	GW10272050	Resistor	0.27Ω	±10%	5W
Q713	2	2	2	HT407571C0	Transistor	2SD757 (C)		
Q714	2	2	2	HT407571C0	Transistor	2SD757 (C)		
Q715	2	2	2	HT322381C0	Transistor	2SC2238B (O or Y)		
Q716	2	2	2	HT322381C0	Transistor	2SC2238B (O or Y)		
Q735	2	2	2	HT406652A0	Transistor	2SD665 (R or O)		
Q736	1	1	1	HT206452A0	Transistor	2SB645 (R or O)		
Q737	2	2	2	HT406652A0	Transistor	2SD665 (R or O)		
Q738	2	2	2	HT206452A0	Transistor	2SB645 (R or O)		
J708	2	2	2	YJ05000260	Jack			
J709	2	2	2	YJ05000260	Jack			
J710	2	2	2	YJ05000260	Jack			
J711	2	2	2	YJ05000260	Jack			

● [H01-99] Packing Materials



- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001S	2	2	2	2990809010	Cushion
002S	1	1	1	9091111040	Polyethy Sheet
002S			1	9014538450	Polyethy Bag
003S	1	1	1	9013025010	Polyethy Bag
004S	1	1	1	2918107210	Sheet
005S	1	1	1	2864804010	Sleeve
901S	3			9526019010	Serial No. Card
901S	3			9526019020	Serial No. Card
901S		1		9560000040	Hang Tag
902S	2			9510901020	Label
902S	3			9526019060	Serial No. Card
903S	1			2918813010	Envelope
903S			1	2918813010	Envelope
905S	1	1	1	9630000180	Guarantee Card
906S	1			9650000050	S. Station Card
907S	1			2818854020	Guarantee Card

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
907S			1	2818854040	Guarantee Card
908S			1	2990851310	Instructions
910S			1	2731821010	Silicagel
910S	1			2990851010	Instructions
910S		1		2990851310	Instructions
911S	1		1	2990801010	Packing Case
911S		1		2990801150	Packing Case
912S			1	2886851100	Instructions
912S	1			2990851020	Instructions
912S			1	2990851030	Instructions
913S		1		2225813010	Envelope
914S		1		2990851050	Instructions

8. ELECTRICAL PARTS LIST

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P400	1	1	1	YG29780020	P400-PHONE AMP. CIRCUIT BOARD
	1	1	1	ZZ29781010	P.W. Board, Phono Amp. P.W. Board Assembly
					P400-CAPACITORS
C403	1	1	1	DF55681090	Film 680pF ±5%
C404	1	1	1	DF55681090	Film 680pF ±5%
C405	1	1	1	DF55681090	Film 680pF ±5%
C406	1	1	1	DF55681090	Film 680pF ±5%
C407	1	1	1	DF55681090	Film 680pF ±5%
C408	1	1	1	DF55681090	Film 680pF ±5%
C409	1	1	1	EA47503590	Elect 4.7μF 35V
C410	1	1	1	EA47503590	Elect 4.7μF 35V
C411	1	1	1	EQ10603510	Elect 10μF 35V
C412	1	1	1	EQ10603510	Elect 10μF 35V
C413	1	1	1	DF74103010	Film 0.01μF ±2%
C414	1	1	1	DF74103010	Film 0.01μF ±2%
C415	1	1	1	DF74330310	Film 0.033μF ±2%
C416	1	1	1	DF74330310	Film 0.033μF ±2%
C417	1	1	1	EA22703590	Elect 220μF 35V
C418	1	1	1	EA22703590	Elect 220μF 35V
C419	1	1	1	DF17474510	Film 0.47μF ±20% 250V
C420	1	1	1	DF17474510	Film 0.47μF ±20% 250V
C421	1	1	1	DF15222300	Film 0.0022μF ±5%
C422	1	1	1	DF15222300	Film 0.0022μF ±5%
C423	1	1	1	EA22701090	Elect 220μF 10V
C424	1	1	1	EA22701090	Elect 220μF 10V
C425	1	1	1	DF15103300	Film 0.01μF ±5%
C426	1	1	1	DF15103300	Film 0.01μF ±5%
C427	1	1	1	DF15103300	Film 0.01μF ±5%
C428	1	1	1	DF15103300	Film 0.01μF ±5%
C429	1	1	1	DF15472300	Film 0.0047μF ±5%
C432	1	1	1	DF15472300	Film 0.0047μF ±5%
C433	1	1	1	DD15470300	Ceramic 47pF ±5%
C434	1	1	1	DD15470300	Ceramic 47pF ±5%
C435	1	1	1	DD15470300	Ceramic 47pF ±5%
C436	1	1	1	DD15470300	Ceramic 47pF ±5%
C437	1	1	1	DK18473310	Ceramic 0.047μF +100% -0
C438	1	1	1	DK18473310	Ceramic 0.047μF +100% -0
					P400-RESISTORS
					(All Resistors are ±5% and 1/4W)
R401	1	1	1	GD05101140	100Ω
R402	1	1	1	GD05101140	100Ω
R403	1	1	1	GD05104140	100KΩ
R404	1	1	1	GD05104140	100KΩ
R405	1	1	1	GM21426710	2.67KΩ ±2%
R406	1	1	1	GM21426710	2.67KΩ ±2%
R407	1	1	1	GM21426710	2.67KΩ ±2%
R408	1	1	1	GM21426710	2.67KΩ ±2%
R409	1	1	1	GD05471140	470Ω
R410	1	1	1	GD05471140	470Ω
R411	1	1	1	GD05471140	470Ω
R412	1	1	1	GD05471140	470Ω
R413	1	1	1	GD05621140	620Ω
R414	1	1	1	GD05621140	620Ω
R415	1	1	1	GD05272140	2.7KΩ
R416	1	1	1	GD05272140	2.7KΩ
R417	1	1	1	GD05272140	2.7KΩ
R418	1	1	1	GD05272140	2.7KΩ
R419	1	1	1	GD05122140	1.2KΩ
R420	1	1	1	GD05122140	1.2KΩ

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
R421	1	1	1	GD05122140	1.2KΩ
R422	1	1	1	GD05122140	1.2KΩ
R423	1	1	1	GG05680140	68Ω
R424	1	1	1	GG05680140	68Ω
R425	1	1	1	GG05680140	68Ω
R426	1	1	1	GG05680140	68Ω
R427	1	1	1	GD05101140	100Ω
R428	1	1	1	GD05101140	100Ω
R429	1	1	1	GG05120140	12Ω
R430	1	1	1	GG05120140	12Ω
R431	1	1	1	GG05120140	12Ω
R432	1	1	1	GG05120140	12Ω
R433	1	1	1	GD05393140	39KΩ
R434	1	1	1	GD05393140	39KΩ
R435	1	1	1	GM21413000	130Ω ±2%
R436	1	1	1	GM21413000	130Ω ±2%
R437	1	1	1	GM21475010	7.5KΩ ±2%
R438	1	1	1	GM21475010	7.5KΩ ±2%
R439	1	1	1	GD05101140	100Ω
R440	1	1	1	GD05101140	100Ω
R441	1	1	1	GM21490920	90.9KΩ ±2%
R442	1	1	1	GM21490920	90.9KΩ ±2%
R443	1	1	1	GD05472140	4.7KΩ
R444	1	1	1	GD05472140	4.7KΩ
R445	1	1	1	GD05101140	100Ω
R446	1	1	1	GD05101140	100Ω
R447	1	1	1	GD05104140	100KΩ
R448	1	1	1	GD05104140	100KΩ
R449	1	1	1	GG05470140	47Ω
R450	1	1	1	GG05470140	47Ω
R451	1	1	1	GD05224140	220KΩ
R452	1	1	1	GD05224140	220KΩ
R453	1	1	1	GD05683140	68KΩ
R454	1	1	1	GD05683140	68KΩ
R455	1	1	1	GD05222140	2.2KΩ
R456	1	1	1	GD05222140	2.2KΩ
					P400-SEMICONDUCTORS
Q401	1	1	1	HF201361Q0	F.E.T. 2SK136 (Q)
Q402	1	1	1	HF201361Q0	F.E.T. 2SK136 (Q)
Q403	1	1	1	HF201361Q0	F.E.T. 2SK136 (Q)
Q404	1	1	1	HF201361Q0	F.E.T. 2SK136 (Q)
Q405	1	1	1	HT322401B0	Transistor 2SC2240 (BL)
Q406	1	1	1	HT322401B0	Transistor 2SC2240 (BL)
Q407	1	1	1	HT109701B0	Transistor 2SA970 (BL)
Q408	1	1	1	HT109701B0	Transistor 2SA970 (BL)
Q409	1	1	1	HT109701B0	Transistor 2SA970 (BL)
Q410	1	1	1	HT109701B0	Transistor 2SA970 (BL)
Q411	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
Q412	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
Q413	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
Q414	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
Q415	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
Q416	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
Q417	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
Q418	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
Q419	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
Q420	1	1	1	HT108722D0	Transistor 2SA872A (D or E)

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N				U	C	N		
Q421	1	1	1	HT407571C0	Transistor 2SD757 (C)	C713	2	2	2	DF17104540	Film 0.1 μ F \pm 20% 100V
Q422	1	1	1	HT407571C0	Transistor 2SD757 (C)	C714	2	2	2	DF16472350	Film 0.0047 μ F \pm 10%
Q423	1	1	1	HT207171C0	Transistor 2SB717 (C)	C715	2	2	2	DF16472350	Film 0.0047 μ F \pm 10%
Q424	1	1	1	HT207171C0	Transistor 2SB717 (C)	C716	2	2	2	EA33502590	Elect 3.3 μ F 25V
Q425	1	1	1	HV00002060	Varistor VD1212	C717	2	2	2	EA33502590	Elect 3.3 μ F 25V
Q426	1	1	1	HV00002060	Varistor VD1212	C718	2	2	2	DF17103510	Film 0.01 μ F \pm 20% 200V
Q427	1	1	1	HD20003210	Diode 1S2471	C719	2	2	2	DF17104510	Film 0.1 μ F \pm 20% 200V
Q428	1	1	1	HD20003210	Diode 1S2471	C720	2	2	2	DF17474510	Film 0.47 μ F \pm 20% 200V
Q429	1	1	1	HD20003210	Diode 1S2471	C721	2	2	2	DF17474510	Film 0.47 μ F \pm 20% 200V
Q430	1	1	1	HD20003210	Diode 1S2471	C722	2	2	2	EA10710010	Elect 100 μ F 100V
Q431	1	1	1	HD20003210	Diode 1S2471	C723	2	2	2	EA10710010	Elect 100 μ F 100V
Q432	1	1	1	HD20003210	Diode 1S2471	P700-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)					
Q433	1	1	1	HV00006120	Varistor MV203 (Y)	R701	2	2	2	GD05474140	470 Ω
Q434	1	1	1	HV00006120	Varistor MV203 (Y)	R702	2	2	2	GD05471140	470 Ω
Q435	1	1	1	HV00004060	Varistor VD1210	R703	2	2	2	GD05104140	100K Ω
Q436	1	1	1	HV00004060	Varistor VD1210	R704	2	2	2	GD05561140	560 Ω
Q437	1	1	1	HD20003210	Diode 1S2471	R705	2	2	2	GD05561140	560 Ω
Q439	1	1	1	HT322401B0	Transistor 2SC2240 (BL)	R708	2	2	2	GD05203140	20K Ω
Q440	1	1	1	HT322401B0	Transistor 2SC2240 (BL)	R709	2	2	2	GD05102140	1K Ω
Q441	1	1	1	HT322401B0	Transistor 2SC2240 (BL)	R710	2	2	2	GD05181140	180 Ω
Q442	1	1	1	HT322401B0	Transistor 2SC2240 (BL)	R711	2	2	2	GD05102140	1K Ω
					P400-MISCELLANEOUS	R712	2	2	2	GD05222140	2.2K Ω
J401	1	1	1	YP06001650	Plug (10P)	R713	2	2	2	GD05222140	2.2K Ω
J402	1	1	1	YP06001650	Plug (6P)	R714	2	2	2	GD05391140	390 Ω
L401	1	1	1	LY20240120	Relay	R715	2	2	2	GD05104140	100K Ω
					P600-LOUDNESS CONTOUR CIRCUIT BOARD	R716	2	2	2	GD05822140	8.2K Ω
P600	1	1	1	YH29781220	P.W. Board, Loudness Contour	R717	2	2	2	GD05822140	8.2K Ω
				ZZ29781220	P.W. Board Assembly	R718	2	2	2	GD05272140	2.7K Ω
					P600-CAPACITORS	R719	2	2	2	GD05272140	2.7K Ω
C601	1	1	1	DF15104300	Film 0.1 μ F \pm 5%	R720	2	2	2	RA02230050	Trimming 22K Ω (B)
C602	1	1	1	DF15104300	Film 0.1 μ F \pm 5%	R721	2	2	2	GA05562010	5.6K Ω 1W
C603	1	1	1	DF15222300	Film 0.0022 μ F \pm 5%	R722	2	2	2	GA05472010	4.7K Ω 1W
C604	1	1	1	DF15222300	Film 0.0022 μ F \pm 5%	R723	2	2	2	GD05222140	2.2K Ω
					P600-RESISTORS	R724	2	2	2	GD05222140	2.2K Ω
R601	1	1	1	RG050300800	Variable, 250K Ω x 2, 50K Ω x 2	R725	2	2	2	GD05222140	2.2K Ω
R602	1	1	1	GD05153140	15K Ω \pm 5% $\frac{1}{4}$ W	R726	2	2	2	GD05222140	2.2K Ω
R603	1	1	1	GD05153140	15K Ω \pm 5% $\frac{1}{4}$ W	R727	2	2	2	GD05563140	56K Ω
R604	1	1	1	GD05332140	3.3K Ω \pm 5% $\frac{1}{4}$ W	R728	2	2	2	GD05563140	56K Ω
R605	1	1	1	GD05332140	3.3K Ω \pm 5% $\frac{1}{4}$ W	R729	2	2	2	GG05331140	330 Ω
					P700-MAIN AMP. CIRCUIT BOARD	R730	2	2	2	GG05331140	330 Ω
P700	2	2	2	YK29901610	P.W. Board, Main Amp.	R731	2	2	2	GD05332140	3.3K Ω
				ZZ29901610	P.W. Board Assembly	R732	2	2	2	GD05681140	680 Ω
					P700-CAPACITORS	R733	2	2	2	RA01020270	Trimming 1K Ω (B)
C701	2	2	2	DD15221370	Ceramic 220pF \pm 5%	R734	2	2	2	GD05821140	820 Ω
C702	2	2	2	EA10602590	Elect 10 μ F 25V	R735	2	2	2	GG05330140	33 Ω
C703	2	2	2	EA10602590	Elect 10 μ F 25V	R736	2	2	2	GG05330140	33 Ω
C704	2	2	2	DD15121370	Ceramic 120pF \pm 5%	R737	2	2	2	GG05100140	10 Ω
C705	2	2	2	DK16101500	Ceramic 100pF \pm 10% 500V	R738	2	2	2	GG05100140	10 Ω
C708	2	2	2	DD15100500	Ceramic 10pF \pm 5% 500V	R739	2	2	2	GD05122140	1.2K Ω
C709	2	2	2	EA10605090	Elect 10 μ F 50V	R740	2	2	2	GD05273140	27K Ω
C710	2	2	2	DF17104540	Film 0.1 μ F \pm 20% 100V	R741	2	2	2	GD05331140	330 Ω
C711	2	2	2	DF17104540	Film 0.1 μ F \pm 20% 100V	R742	2	2	2	GD05331140	330 Ω
C712	2	2	2	DF17104540	Film 0.1 μ F \pm 20% 100V	R743	2	2	2	GD05682140	6.8K Ω
						R744	2	2	2	GD05682140	6.8K Ω
						R745	2	2	2	GD05911140	910 Ω
						R746	2	2	2	GD05911140	910 Ω
						R747	2	2	2	GD05911140	910 Ω

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
R748	2	2	2	GD05911140	910Ω
R749	2	2	2	GD05203140	20KΩ
R750	2	2	2	GG05331120	330Ω 1/2W
R751	2	2	2	GA05560010	56Ω 1W
R752	2	2	2	GG05100120	10Ω 1/2W
R753	2	2	2	GG05100120	10Ω 1/2W
R754	2	2	2	GG05100120	10Ω 1/2W
R755	2	2	2	GG05100120	10Ω 1/2W
R756	2	2	2	GG05047140	4.7Ω
R757	2	2	2	GG05047140	4.7Ω
R758	2	2	2	GG05047140	4.7Ω
R759	2	2	2	GG05047140	4.7Ω
R760	2	2	2	GW10272050	0.27Ω ±10% 5W
R761	2	2	2	GW10272050	0.27Ω ±10% 5W
R762	2	2	2	GW10272050	0.27Ω ±10% 5W
R763	2	2	2	GW10272050	0.27Ω ±10% 5W
R764	2	2	2	GA05100030	10Ω 3W
R765	2	2	2	GA05022020	2.2Ω 2W
R766	2	2	2	GA05100010	10Ω 1W
P700-SEMICONDUCTORS					
Q701	2	2	2	HC10003200	IC 2SK109 (C or D)
Q702	2	2	2	HT322592F0	Transistor 2SC2259 (F or G)
Q703	2	2	2	HT109701A0	Transistor 2SA970 (GR)
Q704	2	2	2	HT322401J0	Transistor 2SC2240 (GR)
Q705	2	2	2	HT109701A0	Transistor 2SA970 (GR)
Q706	2	2	2	HT109701J0	Transistor 2SA970 (GR)
Q707	2	2	2	HT322401J0	Transistor 2SC2240 (GR)
Q708	2	2	2	HT109491B0	Transistor 2SA949 (Y)
Q709	2	2	2	HT322291B0	Transistor 2SC2229 (Y)
Q710	2	2	2	HT109701B0	Transistor 2SA970 (BL)
Q711	2	2	2	HT318152A0	Transistor 2SC1815 (O or Y)
Q712	2	2	2	HT110152A0	Transistor 2SA1015 (O or Y)
Q713	2	2	2	HT407571C0	Transistor 2SD757 (C)
Q714	2	2	2	HT207171C0	Transistor 2SB717 (C)
Q715	2	2	2	HT322381C0	Transistor 2SC2238B (O or Y)
Q716	2	2	2	HT109681C0	Transistor 2SA968B (O or Y)
Q717	2	2	2	HD30025090	Zener WZ150
Q718	2	2	2	HD30025090	Zener WZ150
Q719	2	2	2	HD20003210	Diode 1S2471
Q720	2	2	2	HD20003210	Diode 1S2471
Q721	2	2	2	HD20003210	Diode 1S2471
Q722	2	2	2	HD20003210	Diode 1S2471
Q723	2	2	2	HD20010210	Diode 1S2471G
Q724	2	2	2	HD20010210	Diode 1S2471G
Q725	2	2	2	HV00002120	Varistor SV-3A
Q726	2	2	2	HD20001210	Diode 1S2473
Q727	2	2	2	HD20001210	Diode 1S2473
Q728	2	2	2	HD20003210	Diode 1S2471
Q729	2	2	2	HD20003210	Diode 1S2471
Q730	2	2	2	HD20003210	Diode 1S2471
Q731	2	2	2	HD20003210	Diode 1S2471
Q732	2	2	2	HD20011010	Diode W06C
Q733	2	2	2	HD20011010	Diode W06C
Q734	2	2	2	HT315681S0	Transistor 2SC1568 (S)
Q735	2	2	2	HT406652A0	Transistor 2SD665 (R or O)
Q736	2	2	2	HT206452A0	Transistor 2SB645 (R or O)
Q737	2	2	2	HT406652A0	Transistor 2SD665 (R or O)
Q738	2	2	2	HT206452A0	Transistor 2SB645 (R or O)
Q739	2	2	2	HD20001210	Diode 1S2473
Q740	2	2	2	HD20001210	Diode 1S2473

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
J701	2	2	2	YP06001040	P700-MISCELLANEOUS
J702	2	2	2	YP06000520	Plug, (3P)
J703	2	2	2	YP06001040	Plug, (4P)
J704	2	2	2	YJ06001960	Plug, (3P)
J705	2	2	2	YJ06001960	Jack, (3P)
J706	2	2	2	YJ06001960	Jack, (3P)
J707	2	2	2	YJ06001960	Jack, (3P)
J708	2	2	2	YJ05000260	Jack, TR. Socket
J709	2	2	2	YJ05000260	Jack, TR. Socket
J710	2	2	2	YJ05000260	Jack, TR. Socket
J711	2	2	2	YJ05000260	Jack, TR. Socket
L701	2	2	2	LL23915120	Choke Coil 0.8μH
P701	2	2	2	YK29901620	P.W. Board, Power Tr. Socket
	2	2	2	ZZ29901620	P.W. Board Assembly
J712	2	2	2	YP06001640	Plug, (3P)
P702	2	2	2	YK29901630	P.W. Board, Power Tr. Socket
	2	2	2	ZZ29901630	P.W. Board Assembly
J713	2	2	2	YP06001640	Plug, (3P)
P703	2	2	2	YK29901640	P.W. Board, Power Tr. Socket
	2	2	2	ZZ29901640	P.W. Board Assembly
J714	2	2	2	YP06001640	Plug, (3P)
P704	2	2	2	YK29901650	P.W. Board, Power Tr. Socket
	2	2	2	ZZ29901650	P.W. Board Assembly
J715	2	2	2	YP06001640	Plug, (3P)
P800-POWER SUPPLY CIRCUIT BOARD					
P800	1	1	1	YF29900040	P.W. Board, Power Supply
	1	1	1	ZZ29900040	P.W. Board Assembly
	1	1	1	ZZ29908040	P.W. Board Assembly
P800-CAPACITORS					
C801	1	1	1	DK18103510	Ceramic 0.01μF 500V
C802	1	1	1	DK18103510	Ceramic 0.01μF 500V
C803	1	1	1	DF17474510	Film 0.47μF ±20% 250V
C804	1	1	1	DF17474510	Film 0.47μF ±20% 250V
C805	1	1	1	EB10805060	Elect 1000μF 50V
C806	1	1	1	EB10805060	Elect 1000μF 50V
C807	1	1	1	DF15103350	Film 0.01μF ±5%
C808	1	1	1	DF15103350	Film 0.01μF ±5%
C809	1	1	1	EA10701090	Elect 100μF 10V
C810	1	1	1	EA47503590	Elect 4.7μF 35V

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
C811	1	1	1	EA47503590	Elect	4.7μF	35V
C812	1	1	1	EA10803590	Elect	1000μF	35V
C813	1	1	1	EA10803590	Elect	1000μF	35V
C814	1	1	1	DF17474510	Film	0.47μF ±20%	250V
C815	1	1	1	DF17474510	Film	0.47μF ±20%	250V
P800-RESISTORS (All Resistors are ±5% and 1/2W)							
R803	1	1	1	GD05102140		1KΩ	
R804	1	1	1	GD05102140		1KΩ	
R807	1	1	1	GG05682120		6.8KΩ	1/2W
R808	1	1	1	GD05473140		47KΩ	
R809	1	1	1	GD05103140		10KΩ	
R810	1	1	1	RA04720050	Trimming	4.7KΩ (B)	
R811	1	1	1	GD05473140		47KΩ	
R812	1	1	1	GD05473140		47KΩ	
R813	1	1	1	GD05162140		1.6KΩ	
R814	1	1	1	GG05151140		150Ω	
R815	1	1	1	GG05151140		150Ω	
P800-SEMICONDUCTORS							
Q801	1	1	1	HF200301C0	F.E.T.	2SK30A (Y)	
Q802	1	1	1	HF200301C0	F.E.T.	2SK30A (Y)	
Q803	1	1	1	HT315091Q0	Transistor	2SC1509 (Q)	
Q804	1	1	1	HT107771Q0	Transistor	2SA777 (Q)	
Q805	1	1	1	HT403132P0	Transistor	2SD313 (D or E)	
Q806	1	1	1	HT205072P0	Transistor	2SB507 (D or E)	
Q807	1	1	1	HT322402A0	Transistor	2SC2240 (GR or BL)	
Q808	1	1	1	HT109702A0	Transistor	2SA970 (GR or BL)	
Q809	1	1	1	HE10001030	Diode	DS133B	
Q810	1	1	1	HE10001030	Diode	DS133B	
Q811	1	1	1	HD30008010	Zener	HZ-6L (B)	
P800-MISCELLANEOUS							
F801	1	1		FS10100080	Fuse	1A	
F801		1		FS10100080	Fuse	1AT	
F802	1	1		FS10100080	Fuse	1A	
F802		1		FS10100080	Fuse	1AT	
J801	4	4		YJ08000170	Jack,	Fuse Holder	
J804							
J801							
J804		4		YJ08000270	Jack,	Fuse Holder	
PE00-PRE AMP. CIRCUIT BOARD							
PE00	1	1	1	YN29782210	P.W. Board, Pre Amp.		
	1	1	1	ZZ29781040	P.W. Board Assembly		
PE00-CAPACITORS							
CD01	1	1	1	DF16103300	Film	0.01μF ±10%	
CD03	1	1	1	EA10701090	Elect	100μF	10V
CE01	1	1	1	DD15330370	Ceramic	33pF ±5%	
CE02	1	1	1	DD15330370	Ceramic	33pF ±5%	
CE03	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE04	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE05	1	1	1	EA22701090	Elect	220μF	10V
CE06	1	1	1	EA22701090	Elect	220μF	10V
CE07	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE08	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE09	1	1	1	EA10601690	Elect	10μF	16V
CE10	1	1	1	EA10601690	Elect	10μF	16V

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
CE11	1	1	1	DD15360300	Ceramic	36pF ±5%	
CE12	1	1	1	DD15360300	Ceramic	36pF ±5%	
CE13	1	1	1	EQ10603510	Elect	10μF	35V
CE14	1	1	1	EQ10603510	Elect	10μF	35V
CE15	1	1	1	DD15330300	Ceramic	33pF ±5%	
CE16	1	1	1	DD15330300	Ceramic	33pF ±5%	
CE17	1	1	1	EA10703590	Elect	100μF	35V
CE18	1	1	1	EA10703590	Elect	100μF	35V
CE19	1	1	1	DF17474510	Film	0.47μF ±20%	
CE20	1	1	1	DF17474510	Film	0.47μF ±20%	
CE23	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE24	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE25	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE26	1	1	1	DF15152350	Film	0.0015μF ±5%	
CE27	1	1	1	DD15360300	Ceramic	36pF ±5%	
CE28	1	1	1	DD15360300	Ceramic	36pF ±5%	
CE29	1	1	1	EA10601690	Elect	10μF	16V
CE30	1	1	1	EA10601690	Elect	10μF	16V
CE31	1	1	1	EQ10603510	Elect	10μF	35V
CE32	1	1	1	EQ10603510	Ceramic	33pF ±5%	
CE33	1	1	1	DD15330300	Ceramic	33pF ±5%	
CE34	1	1	1	DD15330300	Ceramic	33pF ±5%	
CH01	1	1	1	DF16104300	Film	0.1μF ±10%	
CH02	1	1	1	DF16104300	Film	0.1μF ±10%	
CH03	1	1	1	EA47503590	Elect	4.7μF	35V
CH04	1	1	1	EA47503590	Elect	4.7μF	35V
CH05	1	1	1	EA33603590	Elect	33μF	35V
CH06	1	1	1	EA33603590	Elect	33μF	35V
CH07	1	1	1	EA10703590	Elect	100μF	35V
CH08	1	1	1	EA10703590	Elect	100μF	35V
CH09	1	1	1	DF17474510	Film	0.47μF ±20%	
CH10	1	1	1	DF17474510	Film	0.47μF ±20%	
CH11	1	1	1	DF15224300	Film	0.22μF ±5%	
CH12	1	1	1	DF15224300	Film	0.22μF ±5%	
CH13	1	1	1	DF15224300	Film	0.22μF ±5%	
CH14	1	1	1	DF15224300	Film	0.22μF ±5%	
CH15	1	1	1	DF15224300	Film	0.22μF ±5%	
CH16	1	1	1	DF15224300	Film	0.22μF ±5%	
CH17	1	1	1	DF15152350	Film	0.0015μF ±5%	
CH18	1	1	1	DF15152350	Film	0.0015μF ±5%	
CH19	1	1	1	DF15222350	Film	0.0022μF ±5%	
CH20	1	1	1	DF15222350	Film	0.0022μF ±5%	
CH21	1	1	1	DF55391090	Film	390pF ±5%	
CH22	1	1	1	DF55391090	Film	390pF ±5%	
CH23	1	1	1	DF15683300	Film	0.068μF ±5%	
CH24	1	1	1	DF15683300	Film	0.068μF ±5%	
CH25	1	1	1	DF15683300	Film	0.068μF ±5%	
CH26	1	1	1	DF15683300	Film	0.068μF ±5%	
CH27	1	1	1	DF15182350	Film	0.0018μF ±5%	
CH28	1	1	1	DF15182350	Film	0.0018μF ±5%	

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REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PE00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RD01	1	1	1	GA05472010	4.7K Ω 1W
RD04	1	1	1	GD05103140	10K Ω
RD05	1	1	1	GD05304140	300K Ω
RD06	1	1	1	GD05104140	100K Ω
RD07	1	1	1	GD05753140	75K Ω
RD08	1	1	1	GD05103140	10K Ω
RD09	1	1	1	GD05153140	15K Ω
RD10	1	1	1	GD05182140	1.8K Ω
RD11	1	1	1	GD05101140	100 Ω
RE01	1	1	1	GD05331140	330 Ω
RE02	1	1	1	GD05331140	330 Ω
RE03	1	1	1	GD05224140	220K Ω
RE04	1	1	1	GD05224140	220K Ω
RE05	1	1	1	GD05222140	2.2K Ω
RE06	1	1	1	GD05222140	2.2K Ω
RE07	1	1	1	GD05222140	2.2K Ω
RE08	1	1	1	GD05222140	2.2K Ω
RE09	1	1	1	GD05101140	100 Ω
RE10	1	1	1	GD05101140	100 Ω
RE11	1	1	1	GD05101140	100 Ω
RE12	1	1	1	GD05101140	100 Ω
RE13	1	1	1	GD05153140	15K Ω
RE14	1	1	1	GD05153140	15K Ω
RE15	1	1	1	GD05560140	56 Ω
RE16	1	1	1	GD05560140	56 Ω
RE17	1	1	1	GD05182140	1.8K Ω
RE18	1	1	1	GD05182140	1.8K Ω
RE19	1	1	1	GD05222140	2.2K Ω
RE20	1	1	1	GD05222140	2.2K Ω
RE21	1	1	1	GD05222140	2.2K Ω
RE22	1	1	1	GD05222140	2.2K Ω
RE23	1	1	1	GD05151140	150 Ω
RE24	1	1	1	GD05151140	150 Ω
RE25	1	1	1	GD05151140	150 Ω
RE26	1	1	1	GD05151140	150 Ω
RE27	1	1	1	GD05473140	47K Ω
RE28	1	1	1	GD05473140	47K Ω
RE29	1	1	1	GD05473140	47K Ω
RE30	1	1	1	GD05473140	47K Ω
RE31	1	1	1	GD05560140	56 Ω
RE32	1	1	1	GD05560140	56 Ω
RE33	1	1	1	GD05102140	1K Ω
RE34	1	1	1	GD05102140	1K Ω
RE35	1	1	1	GG05270140	27 Ω
RE36	1	1	1	GG05270140	27 Ω
RE37	1	1	1	GG05270140	27 Ω
RE38	1	1	1	GG05270140	27 Ω
RE39	1	1	1	GD05047140	4.7 Ω
RE40	1	1	1	GD05047140	4.7 Ω
RE41	1	1	1	GD05104140	100K Ω
RE42	1	1	1	GD05104140	100K Ω
RE43	1	1	1	GD05183140	18K Ω
RE44	1	1	1	GD05183140	18K Ω
RE45	1	1	1	GD05331140	330 Ω
RE46	1	1	1	GD05331140	330 Ω
RE49	1	1	1	GD05222140	2.2K Ω
RE50	1	1	1	GD05222140	2.2K Ω
RE51	1	1	1	GD05222140	2.2K Ω
RE52	1	1	1	GD05222140	2.2K Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RE					
RE53	1	1	1	GD05101140	100 Ω
RE54	1	1	1	GD05101140	100 Ω
RE55	1	1	1	GD05101140	100 Ω
RE56	1	1	1	GD05101140	100 Ω
RE57	1	1	1	GD05153140	15K Ω
RE58	1	1	1	GD05153140	15K Ω
RE59	1	1	1	GD05222140	2.2K Ω
RE60	1	1	1	GD05222140	2.2K Ω
RE61	1	1	1	GD05222140	2.2K Ω
RE62	1	1	1	GD05222140	2.2K Ω
RE63	1	1	1	GD05560140	56 Ω
RE64	1	1	1	GD05560140	56 Ω
RE65	1	1	1	GD05560140	56 Ω
RE66	1	1	1	GD05560140	56 Ω
RE67	1	1	1	GD05473140	47K Ω
RE68	1	1	1	GD05473140	47K Ω
RE69	1	1	1	GD05473140	47K Ω
RE70	1	1	1	GD05473140	47K Ω
RE71	1	1	1	GD05151140	150 Ω
RE72	1	1	1	GD05151140	150 Ω
RE73	1	1	1	GD05151140	150 Ω
RE74	1	1	1	GD05151140	150 Ω
RE75	1	1	1	GD05102140	1K Ω
RE76	1	1	1	GD05102140	1K Ω
RE77	1	1	1	GG05270140	27 Ω
RE78	1	1	1	GG05270140	27 Ω
RE79	1	1	1	GG05270140	27 Ω
RE80	1	1	1	GG05270140	27 Ω
RE83	1	1	1	GD05104140	100K Ω
RE84	1	1	1	GD05104140	100K Ω
RE85	1	1	1	GD05105140	1M Ω
RE86	1	1	1	GD05105140	1M Ω
RE87	1	1	1	GA05680010	68 Ω 1W
RE88	1	1	1	GA05680010	68 Ω 1W
RH01	1	1	1	GD05331140	330 Ω
RH02	1	1	1	GD05331140	330 Ω
RH03	1	1	1	GD05471140	470 Ω
RH04	1	1	1	GD05471140	470 Ω
RH05	1	1	1	GD05471140	470 Ω
RH06	1	1	1	GD05471140	470 Ω
RH07	1	1	1	GD05332140	3.3K Ω
RH08	1	1	1	GD05332140	3.3K Ω
RH09	1	1	1	GD05332140	3.3K Ω
RH10	1	1	1	GD05332140	3.3K Ω
RH11	1	1	1	GD05104140	100K Ω
RH12	1	1	1	GD05104140	100K Ω
RH13	1	1	1	GD05101140	100 Ω
RH14	1	1	1	GD05101140	100 Ω
RH15	1	1	1	GD05101140	100 Ω
RH16	1	1	1	GD05101140	100 Ω
RH17	1	1	1	GG05047140	4.7 Ω
RH18	1	1	1	GG05047140	4.7 Ω
RH19	1	1	1	GG05047140	4.7 Ω
RH20	1	1	1	GG05047140	4.7 Ω

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RH21	1	1	1	GD05105140	1MΩ
RH22	1	1	1	GD05105140	1MΩ
RH23	1	1	1	GD05104140	100KΩ
RH24	1	1	1	GD05104140	100KΩ
RH25	1	1	1	GA05680010	68Ω 1W
RH26	1	1	1	GA05680010	68Ω 1W
RH27	1	1	1	GD05393140	39KΩ
RH28	1	1	1	GD05393140	39KΩ
RH29	1	1	1	GD05153140	15KΩ
RH30	1	1	1	GD05153140	15KΩ
RH31	1	1	1	GD05304140	300KΩ
RH32	1	1	1	GD05304140	300KΩ
RH33	1	1	1	GD05113140	11KΩ
RH34	1	1	1	GD05113140	11KΩ
RH35	1	1	1	GD05113140	11KΩ
RH36	1	1	1	GD05113140	11KΩ
RH37	1	1	1	GD05113140	11KΩ
RH38	1	1	1	GD05113140	11KΩ
RH39	1	1	1	GD05182140	1.8KΩ
RH40	1	1	1	GD05182140	1.8KΩ
RH41	1	1	1	GD05153140	15KΩ
RH42	1	1	1	GD05153140	15KΩ
RH43	1	1	1	GD05224140	220KΩ
RH44	1	1	1	GD05224140	220KΩ
RH45	1	1	1	GD05101140	100Ω
RH46	1	1	1	GD05101140	100Ω
RH47	1	1	1	GD05150140	15Ω
RH48	1	1	1	GD05150140	15Ω
RH49	1	1	1	GD05150140	15Ω
RH50	1	1	1	GD05150140	15Ω
PE00-SEMICONDUCTORS					
QD01	1	1	1	HT110152A0	Transistor 2SA1015 (O or Y)
QD02	1	1	1	HT318152A0	Transistor 2SC1815 (O or Y)
QD03	1	1	1	HT318152A0	Transistor 2SC1815 (O or Y)
QD05	1	1	1	HD20003210	Diode 1S2471
QD06	1	1	1	HD20003210	Diode 1S2471
QE01	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE02	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE03	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE04	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE05	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE06	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE07	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE08	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE09	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QE10	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QE11	1	1	1	HT406661C0	Transistor 2SA666 (C)
QE12	1	1	1	HT406661C0	Transistor 2SA666 (C)
QE13	1	1	1	HT206461C0	Transistor 2SB646 (C)
QE14	1	1	1	HT206461C0	Transistor 2SB646 (C)
QE15	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE16	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE17	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE18	1	1	1	HF201172B0	F.E.T. 2SK117 (Y or GR)
QE19	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE20	1	1	1	HT108722D0	Transistor 2SA872A (D or E)

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
QE21	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE22	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QE23	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QE24	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QE25	1	1	1	HT406661C0	Transistor 2SD666 (C)
QE26	1	1	1	HT406661C0	Transistor 2SD666 (C)
QE27	1	1	1	HT206461C0	Transistor 2SB646 (C)
QE28	1	1	1	HT206461C0	Transistor 2SB646 (C)
QE29	1	1	1	HD20003210	Diode 1S2471
QE30	1	1	1	HD20003210	Diode 1S2471
QE31	1	1	1	HV00006120	Varistor MV203 (Y)
QE32	1	1	1	HV00006120	Varistor MV203 (Y)
QE33	1	1	1	HD20003210	Diode 1S2471
QE34	1	1	1	HD20003210	Diode 1S2471
QE35	1	1	1	HV00006120	Varistor MV203 (Y)
QE36	1	1	1	HV00006120	Varistor MV203 (Y)
QH01	1	1	1	HT108722D0	Transistor 2SA872 (D or E)
QH02	1	1	1	HT108722D0	Transistor 2SA872 (D or E)
QH03	1	1	1	HT317752D0	Transistor 2SC1775 (D or E)
QH04	1	1	1	HT317752D0	Transistor 2SC1775 (D or E)
QH05	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QH06	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QH07	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QH08	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QH09	1	1	1	HT406661C0	Transistor 2SD666 (C)
QH10	1	1	1	HT406661C0	Transistor 2SD666 (C)
QH11	1	1	1	HT206461C0	Transistor 2SB646 (C)
QH12	1	1	1	HT206461C0	Transistor 2SB646 (C)
PE00-MISCELLANEOUS					
LD01	1	1	1	LY20240120	Relay
JH01	1	1	1	YP06001160	Plug, (12P)
JH02	1	1	1	YP06001140	Plug, (7P)
JH03	1	1	1	YP06001140	Plug, (7P)
SH01	1	1	1	SP04060090	Push Switch
PF00-TONE VR. CIRCUIT BOARD					
PF00	2	2	2	YN29782240	P.W. Board, Tone VR.
	2	2	2	ZZ29782240	P.W. Board Assembly
PF00-CAPACITORS					
CF01	2	2	2	DF15153300	Film 0.015μF ±5%
CF02	2	2	2	DF15153300	Film 0.015μF ±5%
CF03	2	2	2	DF15562300	Film 0.0056μF ±5%
CF04	2	2	2	DD15331370	Ceramic 330pF ±5%
CF05	2	2	2	DF15562300	Film 0.0056μF ±5%
CF06	2	2	2	DF15103300	Film 0.01μF ±5%
CF07	2	2	2	DF15103300	Film 0.01μF ±5%
CF08	2	2	2	DD15221370	Ceramic 220pF ±5%

• (U): for U.S.A.
 • (C): for Canada
 • (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PF00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RF01	2	2	2	RX01040040	Variable, Bass
RF02	2	2	2	RX01040040	Variable, Mid
RF03	2	2	2	RX01040040	Variable, Treble
RF04	2	2	2	GD05183140	18K Ω
RF05	2	2	2	GD05183140	18K Ω
RF06	2	2	2	GD05273140	27K Ω
RF07	2	2	2	GD05273140	27K Ω
RF08	2	2	2	GD05562140	5.6K Ω
RF09	2	2	2	GD05562140	5.6K Ω
RF11	2	2	2	GD05392140	3.9K Ω
RF12	2	2	2	GD05562140	5.6K Ω
RF13	2	2	2	GD05562140	5.6K Ω
PF00-JACK					
JF01	2	2	2	YJ06001970	Jack, (10P)
JF02	2	2	2	YJ06001980	Jack, (6P)
PF01-TONE VR CONNECTOR CIRCUIT BOARD					
PF01	2	2	2	YN29782220	P.W. Board, Tone VR Connector
	2	2	2	ZZ29782220	P.W. Board Assembly
JF03	2	2	2	YP06001670	Plug, (16P)
PG00-VOLUME BUFFER CIRCUIT BOARD					
PG00	1	1	1	YN29782230	P.W. Board, Volume Buffer
	1	1	1	ZZ29781100	P.W. Board Assembly
PG00-CAPACITORS					
CG01	1	1	1	DF16104300	Film 0.1 μ F $\pm 10\%$
CG02	1	1	1	DF16104300	Film 0.1 μ F $\pm 10\%$
CG05	1	1	1	EA33603590	Elect 33 μ F 35V
CG06	1	1	1	EA33603590	Elect 33 μ F 35V
PG00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RG01	1	1	1	RG05030070	Variable 50K Ω x 4
RG03	1	1	1	GD05471140	470 Ω
RG04	1	1	1	GD05471140	470 Ω
RG05	1	1	1	GD05471140	470 Ω
RG06	1	1	1	GD05471140	470 Ω
RG07	1	1	1	GD05332140	3.3K Ω
RG08	1	1	1	GD05332140	3.3K Ω
RG09	1	1	1	GD05332140	3.3K Ω
RG10	1	1	1	GD05332140	3.3K Ω
RG11	1	1	1	GD05104140	100K Ω
RG12	1	1	1	GD05104140	100K Ω
RG13	1	1	1	GD05101140	100 Ω
RG14	1	1	1	GD05101140	100 Ω
RG15	1	1	1	GD05101140	100 Ω
RG16	1	1	1	GD05101140	100 Ω
RG17	1	1	1	GG05047140	4.7 Ω
RG18	1	1	1	GG05047140	4.7 Ω
RG19	1	1	1	GG05047140	4.7 Ω
RG20	1	1	1	GG05047140	4.7 Ω
RG21	1	1	1	GD05224140	220K Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RG02 1 1 1 GD05224140 220K Ω					
RG23	1	1	1	GD05224140	220K Ω
RG24	1	1	1	GD05224140	220K Ω
RG25	1	1	1	GD05331140	330 Ω
RG26	1	1	1	GD05331140	330 Ω
RG27	1	1	1	GD05102140	1K Ω
RG28	1	1	1	GD05102140	1K Ω
RG29	1	1	1	GD05150140	15 Ω
RG30	1	1	1	GD05150140	15 Ω
RG31	1	1	1	GD05150140	15 Ω
RG32	1	1	1	GD05150140	15 Ω
PG00-SEMICONDUCTORS					
QG01	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QG02	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QG03	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QG04	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QG05	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QG06	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QG07	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QG08	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QG09	1	1	1	HT406661C0	Transistor 2SD666 (C)
QG10	1	1	1	HT406661C0	Transistor 2SD666 (C)
QG11	1	1	1	HT206461C0	Transistor 2SB646 (C)
QG12	1	1	1	HT206461C0	Transistor 2SB646 (C)
PG00-MISCELLANEOUS					
JG01	1	1	1	YJ06001660	Jack, (7P)
JG02	1	1	1	YJ06001660	Jack, (7P)
SG01	1	1	1	SR04050180	Rotary Switch
PJ00-SELECTOR SWITCH CIRCUIT BOARD					
PJ00	1	1	1	YF29780030	P.W. Board, Selector Switch
	1	1	1	ZZ29780030	P.W. Board Assembly
CJ01	1	1	1	EA47503590	Elect Cap. 4.7 μ F 35V
PJ00-MISCELLANEOUS					
JJ01	1	1	1	YJ06001970	Jack, (10P)
JJ02	1	1	1	YJ06001980	Jack, (6P)
JJ03	1	1	1	YJ06001680	Jack, (12P)
SJ01	1	1	1	SP06060100	Push Switch, Input
SJ02	1	1	1	SR04050170	Rotary Switch, Record, 1
SJ03	1	1	1	SR04050170	Rotary Switch, Record, 2
PK00-TAPE EQ CIRCUIT BOARD					
PK00	1	1	1	YF29780040	P.W. Board, Tape EQ
	1	1	1	ZZ29780040	P.W. Board Assembly
PK00-CAPACITORS					
CK01	1	1	1	DF16104300	Film 0.1 μ F $\pm 10\%$
CK02	1	1	1	DF16104300	Film 0.1 μ F $\pm 10\%$
CK03	1	1	1	EA10603590	Elect 10 μ F 35V
CK04	1	1	1	EA10603590	Elect 10 μ F 35V
CK05	1	1	1	EA10605090	Elect 10 μ F 50V
CK06	1	1	1	EA10605090	Elect 10 μ F 50V
CK08	1	1	1	EA10703590	Elect 100 μ F 35V
CK09	1	1	1	EA10703590	Elect 100 μ F 35V
CK11	1	1	1	DF16222300	Film 0.0022 μ F $\pm 10\%$
CK12	1	1	1	DF16222300	Film 0.0022 μ F $\pm 10\%$

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PK00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RK01	1	1	1	GD05331140	330 Ω
RK02	1	1	1	GD05331140	330 Ω
RK03	1	1	1	GD05471140	470 Ω
RK04	1	1	1	GD05471140	470 Ω
RK05	1	1	1	GD05471140	470 Ω
RK06	1	1	1	GD05471140	470 Ω
RK07	1	1	1	GD05332140	3.3K Ω
RK08	1	1	1	GD05332140	3.3K Ω
RK09	1	1	1	GD05332140	3.3K Ω
RK10	1	1	1	GD05332140	3.3K Ω
RK11	1	1	1	GD05104140	100K Ω
RK12	1	1	1	GD05104140	100K Ω
RK13	1	1	1	GD05101140	100 Ω
RK14	1	1	1	GD05101140	100 Ω
RK15	1	1	1	GD05101140	100 Ω
RK16	1	1	1	GD05101140	100 Ω
RK17	1	1	1	GD05047140	4.7 Ω
RK18	1	1	1	GD05047140	4.7 Ω
RK19	1	1	1	GD05047140	4.7 Ω
RK20	1	1	1	GD05047140	4.7 Ω
RK21	1	1	1	GD05047140	4.7 Ω
RK22	1	1	1	GD05047140	4.7 Ω
RK23	1	1	1	GD05104140	100K Ω
RK24	1	1	1	GD05104140	100K Ω
RK25	1	1	1	GF05151120	150 Ω $\frac{1}{4}W$
RK26	1	1	1	GF05151120	150 Ω $\frac{1}{4}W$
RK27	1	1	1	GD05224140	220K Ω
RK28	1	1	1	GD05224140	220K Ω
RK29	1	1	1	GD05150140	15 Ω
RK30	1	1	1	GD05150140	15 Ω
RK31	1	1	1	GD05150140	15 Ω
RK32	1	1	1	GD05150140	15 Ω
PK00-SEMICONDUCTORS					
QK01	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QK02	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QK03	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QK04	1	1	1	HT317752D0	Transistor 2SC1775A (D or E)
QK05	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QK06	1	1	1	HT322401A0	Transistor 2SC2240 (GR)
QK07	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QK08	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QK09	1	1	1	HT406661C0	Transistor 2SD666 (C)
QK10	1	1	1	HT406661C0	Transistor 2SD666 (C)
QK11	1	1	1	HT206461C0	Transistor 2SB646 (C)
QK12	1	1	1	HT206461C0	Transistor 2SB646 (C)
PK00-MISCELLANEOUS					
JK01	1	1	1	YP06001580	Plug, (12P)
JK02	1	1	1	YJ06001680	Jack, (12P)
SK01	1	1	1	SC00030010	Switch
SK02	1	1	1	SB11000010	Switch Band, Flx
SK03	1	1	1	SS10040010	Slide Switch

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PL00-CARTRIDGE LOAD CIRCUIT BOARD					
PL00	1	1	1	YH29781210	P.W. Board, Cartridge Load
	1	1	1	ZZ29781210	P.W. Board Assembly
PL00-CAPACITORS					
CL01	1	1	1	DD15390300	Ceramic 39pF $\pm 5\%$
CL02	1	1	1	DD15390300	Ceramic 39pF $\pm 5\%$
CL03	1	1	1	DF55101090	Film 100pF $\pm 5\%$
CL04	1	1	1	DF55101090	Film 100pF $\pm 5\%$
CL05	1	1	1	DF55221090	Film 220pF $\pm 5\%$
CL06	1	1	1	DF55221090	Film 220pF $\pm 5\%$
CL07	1	1	1	DF55361090	Film 360pF $\pm 5\%$
CL08	1	1	1	DF55361090	Film 360pF $\pm 5\%$
CL09	1	1	1	DD15390300	Ceramic 39pF $\pm 5\%$
CL10	1	1	1	DD15390300	Ceramic 39pF $\pm 5\%$
CL11	1	1	1	DF55101090	Film 100pF $\pm 5\%$
CL12	1	1	1	DF55101090	Film 100pF $\pm 5\%$
CL13	1	1	1	DF55221090	Film 220pF $\pm 5\%$
CL14	1	1	1	DF55221090	Film 220pF $\pm 5\%$
CL15	1	1	1	DF55361090	Film 360pF $\pm 5\%$
CL16	1	1	1	DF55361090	Film 360pF $\pm 5\%$
CL17	1	1	1	DD15100010	Ceramic 10pF $\pm 5\%$
CL18	1	1	1	DD15100010	Ceramic 10pF $\pm 5\%$
PL00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RL01	1	1	1	GD05112140	1.1K Ω
RL02	1	1	1	GD05112140	1.1K Ω
RL03	1	1	1	GD05123140	12K Ω
RL04	1	1	1	GD05123140	12K Ω
RL05	1	1	1	GD05393140	39K Ω
RL06	1	1	1	GD05393140	39K Ω
RL07	1	1	1	GD05104140	100K Ω
RL08	1	1	1	GD05104140	100K Ω
RL09	1	1	1	GD05112140	1.1K Ω
RL10	1	1	1	GD05112140	1.1K Ω
RL11	1	1	1	GD05123140	12K Ω
RL12	1	1	1	GD05123140	12K Ω
RL13	1	1	1	GD05393140	39K Ω
RL14	1	1	1	GD05393140	39K Ω
RL15	1	1	1	GD05104140	100K Ω
RL16	1	1	1	GD05104140	100K Ω
PL00-SWITCH					
SL01	1	1	1	SR04050190	Rotary Switch
SL02	1	1	1	SR04050190	Rotary Switch

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PM01	1	1	1	YK29780210	PM01-MC AMP. CIRCUIT BOARD
	1	1	1	ZZ29780210	P.W. Board, MC Amp. P.W. Board Assembly
CM01	1	1	1	DD15101300	PM01-CAPACITORS
CM02	1	1	1	DD15101300	Ceramic 100pF ±5%
CM03	1	1	1	DF15152350	Ceramic 100pF ±5%
CM04	1	1	1	DF15152350	Film 0.0015μF ±5%
CM05	1	1	1	EA47700690	Film 0.0015μF ±5%
CM06	1	1	1	EA47700690	Elect 470μF 6V
CM07	1	1	1	EA47503590	Elect 470μF 6V
CM08	1	1	1	EA47503590	Elect 4.7μF 35V
CM09	1	1	1	DD15560300	Elect 4.7μF 35V
CM10	1	1	1	DD15560300	Ceramic 56pF ±5%
					Ceramic 56pF ±5%
CM11	1	1	1	EA47700690	PM01-RESISTORS (All Resistors are ±5% and 1/4W)
CM12	1	1	1	EA47700690	Elect 470μF 6.3V
CM13	1	1	1	DF15102300	Elect 470μF 6.3V
CM14	1	1	1	DF15102300	Film 0.001μF ±5%
CM15	1	1	1	EQ10603510	Film 0.001μF ±5%
CM16	1	1	1	EQ10603510	Elect 10μF 35V
CM17	1	1	1	DF17474510	Elect 10μF 35V
CM18	1	1	1	DF17474510	Film 0.47μF ±20%
CM19	1	1	1	EA47601690	Film 0.47μF ±20%
CM20	1	1	1	EA47601690	Elect 47μF 16V
CM21	1	1	1	EA22701690	Elect 47μF 16V
CM22	1	1	1	EA22701690	Elect 220μF 16V
					Elect 220μF 16V
RM01	1	1	1	GD05033140	PM01-RESISTORS (All Resistors are ±5% and 1/4W)
RM02	1	1	1	GD05033140	3.3Ω
RM03	1	1	1	GD05470140	3.3Ω
RM04	1	1	1	GD05470140	47Ω
RM05	1	1	1	GM21422110	2.21KΩ ±2%
RM06	1	1	1	GM21422110	2.21KΩ ±2%
RM07	1	1	1	GD05163140	16KΩ
RM08	1	1	1	GD05163140	16KΩ
RM09	1	1	1	GD05220140	22Ω
RM10	1	1	1	GD05220140	22Ω
RM11	1	1	1	GD05152140	1.5KΩ
RM12	1	1	1	GD05152140	1.5KΩ
RM13	1	1	1	GD05121140	120Ω
RM14	1	1	1	GD05121140	120Ω
RM15	1	1	1	GD05153140	15KΩ
RM16	1	1	1	GD05153140	15KΩ
RM17	1	1	1	GD05152140	1.5KΩ
RM18	1	1	1	GD05152140	1.5KΩ
RM19	1	1	1	GG05220140	22Ω
RM20	1	1	1	GG05220140	22Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RM21	1	1	1	GG05220140	22Ω
RM22	1	1	1	GG05220140	22Ω
RM23	1	1	1	GD05471140	470Ω
RM24	1	1	1	GD05471140	470Ω
RM25	1	1	1	GD05103140	10KΩ
RM26	1	1	1	GD05103140	10KΩ
RM27	1	1	1	GD05470140	47Ω
RM28	1	1	1	GD05470140	47Ω
RM29	1	1	1	GD05470140	47Ω
RM30	1	1	1	GD05470140	47Ω
RM31	1	1	1	GD05223140	22KΩ
RM32	1	1	1	GD05223140	22KΩ
RM33	1	1	1	GD05273140	27KΩ
RM34	1	1	1	GD05273140	27KΩ
QM01	1	1	1	HF201472A0	PM01-SEMICONDUCTORS
QM02	1	1	1	HF201472A0	F.E.T. 2SK147 (GR-BL)
QM03	1	1	1	HT109701A0	F.E.T. 2SK147 (GR-BL)
QM04	1	1	1	HT109701A0	Transistor 2SA970 (GR)
QM05	1	1	1	HT406661C0	Transistor 2SA970 (GR)
QM06	1	1	1	HT406661C0	Transistor 2SD666 (C)
QM07	1	1	1	HT206461C0	Transistor 2SD666 (C)
QM08	1	1	1	HT206461C0	Transistor 2SB646 (C)
QM09	1	1	1	HV00006120	Transistor 2SB646 (C)
QM10	1	1	1	HV00006120	Varistor MV203 (Y)
QM11	1	1	1	HT403132P0	Varistor MV203 (Y)
QM12	1	1	1	HT205072P0	Transistor 2SD313 (D or E)
					Transistor 2SB507 (D or E)
SM01	1	1	1	SP04010300	PM01-SWITCH
					Push Switch
PN00	1	1	1	YG29560022	PN00-PEAK IND. CIRCUIT BOARD
				ZZ29902020	P.W. Board, Peak Ind. P.W. Board Assembly
CN01	1	1	1	EA33505090	PN00-CAPACITORS
CN02	1	1	1	EA33505090	Elect 3.3μF 50V
CN04	1	1	1	EA10706390	Elect 3.3μF 50V
CN05	1	1	1	EA22701690	Elect 100μF 63V
CN06	1	1	1	EA47601690	Elect 220μF 16V
CN07	1	1	1	EA47601690	Elect 47μF 16V
					Elect 47μF 16V
RN15	1	1	1	RT05103140	PN00-RESISTORS (All Resistors are ±5% and 1/4W)
RN16	1	1	1	RT05103140	10KΩ
RN17	1	1	1	RT05393140	10KΩ
RN18	1	1	1	RT05393140	39KΩ
RN19	1	1	1	RT05183140	39KΩ
RN20	1	1	1	RT05183140	18KΩ
RN21	1	1	1	RT05302140	18KΩ
RN22	1	1	1	RT05302140	3KΩ
RN23	1	1	1	RT05753140	3KΩ
RN24	1	1	1	RT05753140	75KΩ
					75KΩ
RN25	1	1	1	RT05753140	75KΩ
RN26	1	1	1	RT05753140	75KΩ
RN27	1	1	1	RT05473140	47KΩ
RN28	1	1	1	RT05473140	47KΩ
RN29	1	1	1	RT05473140	47KΩ

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RN30	1	1	1	RT05473140	47KΩ
RN31	1	1	1	RT05183140	18KΩ
RN32	1	1	1	RT05183140	18KΩ
RN33	1	1	1	RT05333140	33KΩ
RN34	1	1	1	RT05333140	33KΩ
RN35	1	1	1	RT05223140	22KΩ
RN36	1	1	1	RT05223140	22KΩ
RN37	1	1	1	RT05104140	100KΩ
RN38	1	1	1	RT05104140	100KΩ
RN39	1	1	1	RT05823140	82KΩ
RN40	1	1	1	RT05823140	82KΩ
RN41	1	1	1	RT05512140	5.1KΩ
RN42	1	1	1	RT05512140	5.1KΩ
RN43	1	1	1	RT05273140	27KΩ
RN44	1	1	1	RT05273140	27KΩ
RN45	1	1	1	RT05363140	36KΩ
RN46	1	1	1	GA05391010	390Ω
RN47	1	1	1	RT05274140	270KΩ
RN48	1	1	1	GD05393140	39KΩ
RN49	1	1	1	RT05273140	27KΩ
RN50	1	1	1	RT05682140	6.8KΩ
RN51	1	1	1	RT05224140	220KΩ
RN52	1	1	1	RT05562140	5.6KΩ
RN53	1	1	1	RT05562140	5.6KΩ
RN54	1	1	1	GA05332010	3.3KΩ
RN55	1	1	1	RT05511140	510Ω
RN56	1	1	1	RT05511140	510Ω
PN00-SEMICONDUCTORS					
QN03	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QN04	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QN05	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QN06	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QN09	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QN10	1	1	1	HT313182B0	Transistor 2SC1318 (R or S)
QN11	1	1	1	HT313182B0	Transistor 2SC1318 (R or S)
QN13	1	1	1	HD30023090	Zener WZ-071
QN14	1	1	1	HD20011030	Diode DS131B
QN15	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QN16	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QN17	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QN18	1	1	1	HT108722D0	Transistor 2SA872A (D or E)
QN19	1	1	1	HT317752E0	Transistor 2SC1775A (E or F)
QN20	1	1	1	HT317752E0	Transistor 2SC1775A (E or F)
QN23	1	1	1	HD20001210	Diode 1S2473
QN24	1	1	1	HD20001210	Diode 1S2473
QN25	1	1	1	HD20001210	Diode 1S2473
QN26	1	1	1	HD20001210	Diode 1S2473
QN27	1	1	1	HD20011010	Diode W06C
QN28	1	1	1	HD20011010	Diode W06C
QN29	1	1	1	HD20005010	Diode W06B
QN30	1	1	1	HD20005010	Diode W06B
PN00-MISCELLANEOUS					
JN01	1	1	1	YP06001070	Plug, (9P)
JN02	1	1	1	YP06001070	Plug, (9P)
JN03	1	1	1	YP06001040	Plug, (3P)
JN04	1	1	1	YP06001060	Plug, (7P)
LN01	1	1	1	LY20240110	Relay

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PV00	1	1	1	YF29780020	PV00-RCA PIN CIRCUIT BOARD P.W. Board, RCA Pin
	1	1	1	ZZ29901020	P.W. Board Assembly
				ZZ29908020	P.W. Board Assembly
CV01	1	1	1	DK18473320	Ceramic 0.047μF +100% -0
RV01	1			GD05394140	PV00-RESISTORS (All Resistors are ±5% and 1/4W)
RV02	1			GD05394140	390KΩ
RV03	1			GD05104140	390KΩ
RV04	1			GD05104140	100KΩ
RV05	1			GD05394140	390KΩ
RV06	1			GD05394140	390KΩ
RV07	1			GD05104140	100KΩ
RV08	1			GD05104140	100KΩ
JV01	1	1	1	YT02040270	PV00-JACK Terminal, Phono 1, 2
JV02	1	1	1	YT02040150	Terminal, Tuner/Aux
JV03	1	1	1	BY01050060	Jack, Tape Monitor 1
JV03	1	1	1	YT02040150	Terminal, Tape Monitor 1
JV04	1	1	1	BY01050060	Jack, Tape Monitor 2
JV04	1	1	1	YT02040150	Terminal, Tape Monitor 2
JV05	1	1	1	YT02020150	Terminal, Scope Out
JV06	1	1	1	YT02040150	Terminal, Pre Out
JV06	1	1	1	YT02040210	Terminal, Pre Out
PW00	1	1	1	YD29700032	PW00-SPEAKER SWITCH CIRCUIT BOARD P.W. Board, Speaker Switch
	1	1	1	ZZ29780010	P.W. Board Assembly
RW01	1	1	1	GA05331020	PW00-RESISTORS
RW02	1	1	1	GA05331020	330Ω 2W
RW03	1	1	1	GA05151010	330Ω 2W
RW04	1	1	1	GA05151010	150Ω 1W
JW01	1	1	1	YJ01000860	PW00-MISCELLANEOUS Jack, Headphone
SW01	1	1	1	SP02020240	Push Switch

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

9. TECHNICAL SPECIFICATIONS

FOR U.S.A. MODEL ONLY

AMPLIFIER SECTION

RATED POWER OUTPUT, MINIMUM CONTINUOUS

AVERAGE POWER PER CHANNELS, BOTH CHANNELS DRIVEN	150 WATTS
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.03%
LOAD IMPEDANCE	8 OHMS

RATED POWER OUTPUT, MINIMUM CONTINUOUS

AVERAGE POWER PER CHANNELS, BOTH CHANNELS DRIVEN	190 WATTS
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.05%
LOAD IMPEDANCE	4 OHMS

I.M. Distortion (IHF method, 60 Hz and 7 kHz mixed 4 : 1 at rated power output)

at 8 ohm load impedance	0.03%
at 4 ohm load impedance	0.05%

Damping Factor (at 20 Hz)

Sensitivity (at MAIN IN)

Impedance (at MAIN IN)

Frequency Response for Power Amp Only (at 1 watt output ± 1 dB)

S/N Ratio (MAIN IN, "A" Weighted)

PREAMPLIFIER SECTION

Phono Section

Input Overload at 1 kHz (MM)	250 mV
THD (150 mV Input at 1 kHz)	0.005%

Equivalent Input Noise ("A" Weighted)	
Phono (MM)	0.24 μ V
Phono (MC)	0.09 μ V

Dynamic Range ("A" Weighted)	
Phono (MM)	120 dB

Input Sensitivity (ref. to rated output)	
Phono (MM)	2.0 mV
Phono (MC)	200 μ V

Input Impedance	
Phono (MM)	100 k, 47 k, 27 k, 10 k, or 1 k ohms
Phono (MC)	50 ohms

Input Capacitance (MM)	470, 330, 220, 150, or 100 pF
Frequency Response, RIAA 20 Hz to 20 kHz	± 0.2 dB

Signal to Noise Ratio (ref. to rated output and 7.75 mV input "PHONO MM" or 0.775 mV input "PHONO MC" at 1 kHz, "A" weighted)	
Phono (MM)	90 dB
Phono (MC)	80 dB

High Level Inputs (Aux Tape, and Tuner)	
Input Sensitivity (ref. rated output)	150 mV
Input Impedance	40 k ohms

Frequency Response	
20 Hz ~ 20 kHz	± 0.1 dB
5 Hz ~ 100 kHz	± 1.3 dB

Signal-to-Noise Ratio (ref. to Rated Output and 7.75 mV input "A" weighted)	100 dB
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Output Levels	
Tape Out (ref. to 7.75 mV at Phono (MM) Input)	590 mV
Pre Out (ref. to 150 mV at Aux Inputs)	1.5 V
(ref. to 500 mV at Aux Inputs)	5.0 V

Output Impedance	
Tape Out (Phono Mode)	110 ohms
Pre Out	100 ohms

GENERAL

Power Requirements	120 V AC 60 Hz
Power Consumption at rated output, both channels operating (8 ohm load)	580 W
Idling power (volume control at zero)	90 W
Dimensions	
Panel Width	16-3/8" (416 mm)
Panel Height	5-3/4" (146 mm)
Depth	17-3/16" (436 mm)
Weight	
Unit alone	53.9 lbs (24.5 kg)
Packed for shipment	58.3 lbs (26.5 kg)

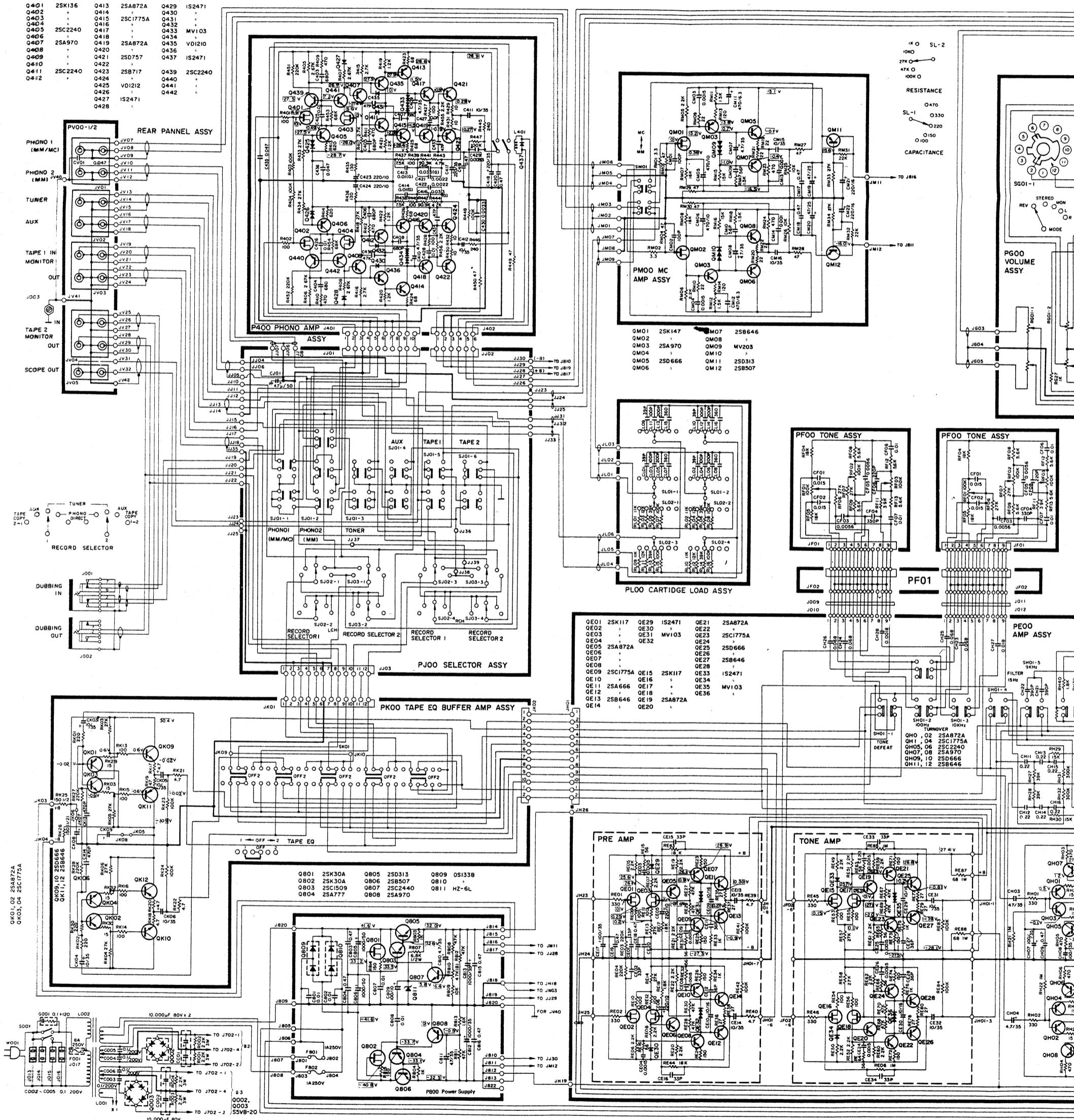
FOR EUROPEAN MODEL ONLY

AUDIO SECTION

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL	230 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL	190 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT	0.03%
I.M. DISTORTION AT RATED POWER OUTPUT (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1)	0.04%
POWER BANDWIDTH	DC-30 kHz
POWER OUTPUT, DIN, 8 OHM, PER CHANNEL	190 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL	150 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT	0.01%
I.M. DISTORTION AT RATED POWER OUTPUT (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1)	0.02%
POWER BANDWIDTH	DC-30 kHz
DAMPING FACTOR 8 OHM	65
Frequency Response	
Phono (RIAA)	±0.2 dB
Aux (±1 dB)	10 Hz - 60 kHz
Main In (±1 dB)	DC-100 kHz
Signal-to-Noise Ratio (IHF-A Network)	
Phono (MC)	76 dB
(MM)	90 dB
Aux	100 dB
Main In	110 dB
Input Terminals	
Phono: Input Impedance (MC)	50 ohms
(MM)	100 k ohms
(MM)	47 k ohms
(MM)	27 k ohms
(MM)	10 k ohms
(MM)	1 k ohms
Input Capacitance (MM)	100 pF
(MM)	150 pF
(MM)	220 pF
(MM)	330 pF
(MM)	470 pF
Input Sensitivity (MC)	100 µV
(MM)	2.0 mV

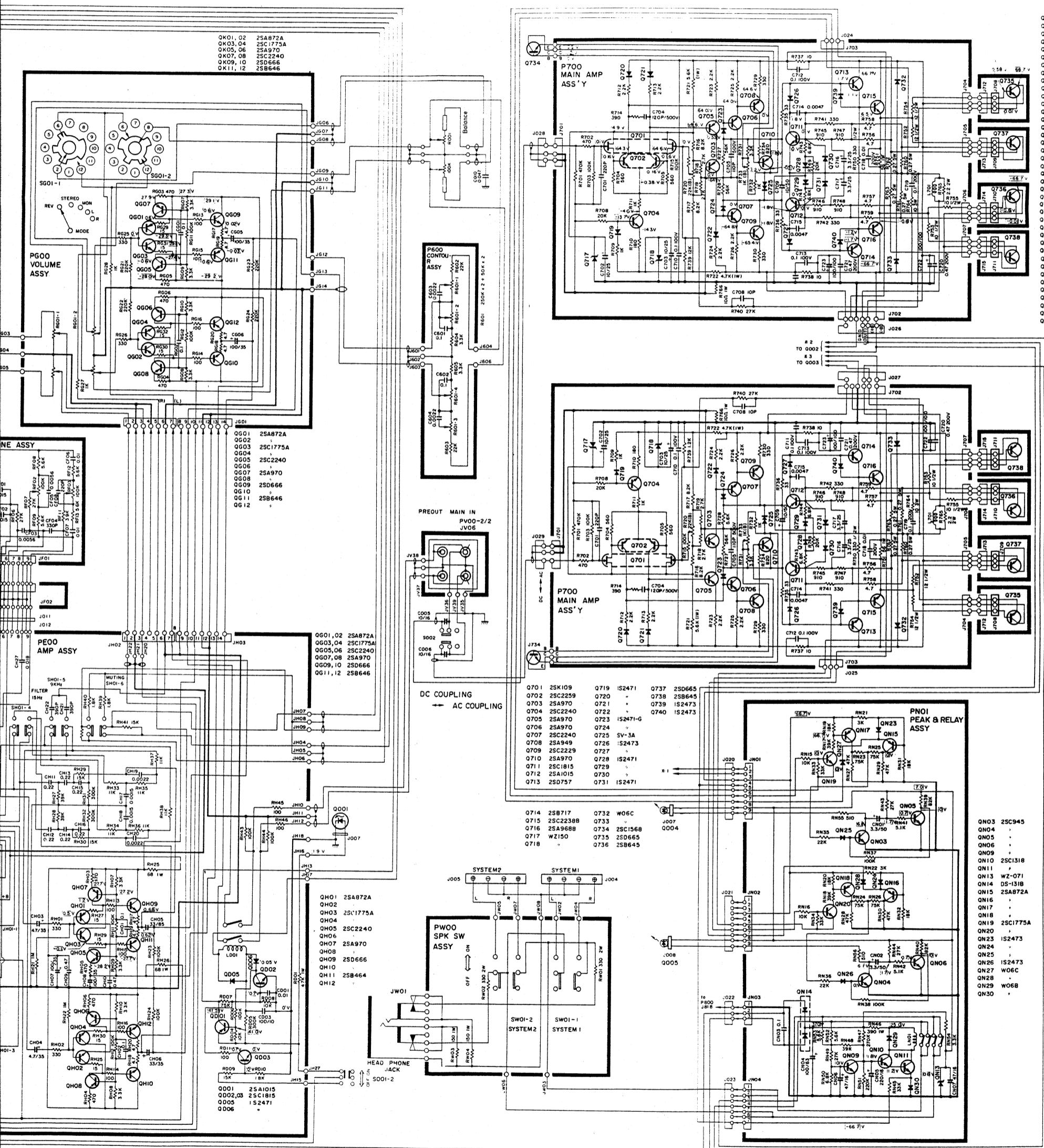
Overload Margin	42 dB
Aux: Input Impedance	40 k ohms
Input Sensitivity	150 mV
Phono Equivalent Input Noise (IHF-A Network)	
(MC)	0.07 μ V
(MM)	0.24 μ V
Phono Dynamic Range (Ratio of input overload to equivalent input noise)	120 dB
Channel Balance (0 to -40 dB/40 Hz-16 kHz)	
Phono	1.0 dB
Aux	0.5 dB
Main In	0.5 dB
Interchannel Crosstalk	
Phono 1 kHz	46 dB
Aux 1 kHz	52 dB
Tape 1 kHz	52 dB
Main In 1 kHz	52 dB
Intersource Crosstalk (Worst Point)	
1 kHz	52 dB
Output Voltage, 1 kHz	
Tape Out: Phono (MM) 7.75 mV Input	590 mV
Pre Out: Aux 775 mV Input	7.75 V
Output Impedance, 1 kHz	
Tape Out	110 ohms
Pre Out	100 ohms
GENERAL	
Power Requirements	220 V AC, 50 Hz
	(E and N versions are featuring an external voltage selector for use on 110/120/240 V.)
	Other versions can be converted by a qualified technician to operate on 110/120/240 V.)
Power Consumption at Rated Output, Both Channels Operating	575 W
Idling Power	90 W
Semiconductor Complement	
Transistors	150
Diodes	73
Field Effect Transistors	18
Dimensions	
Panel Width	16-3/8" (416 mm)
Panel Height	5-3/4" (146 mm)
Depth	17-3/16" (436 mm)
Weight	
Unit alone	53.9 lbs (24.5 kg)
Packed for shipment	58.3 lbs (26.5 kg)

10. SCHEMATIC DIAGRAM



NOTE: This schematic diagram applies

MODEL 1300DC



This diagram applies to units manufactured for the U.S.A. and European market